In the Matter of

A Commission Inquiry
Into Retail Electric Competition

Missouri PSC Case No. EW-97-245

Report of the STRANDED COST WORKING GROUP to the RETAIL ELECTRIC COMPETITION TASK FORCE

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CHAPTER I

Introduction

This report constitutes the work product of the Stranded Cost Working Group which is a part of the Missouri Public Service Commission=s Task Force on Retail Electric Competition in Missouri, Missouri PSC Case No. EW-97-245.

The Working Group met on twelve separate occasions, with the first meeting on August 22, 1997, and the final meeting on March 4, 1998. The initial meetings of the Working Group were designed for information gathering and to allow the Working Group members to become informed about the issues related to stranded costs. The Working Group was fortunate to have the benefit of presentations by two outside experts. Eric Hirst of Oak Ridge National Laboratories addressed the Group in October 1997, regarding the subject of stranded cost in general, and highlighted the ORNL publication on stranded cost of which he is a co-author. On February 25, 1998, the Group heard a presentation from Susan Weil of Lamont Financial Services Corporation on the issue of securitization.

The primary goal of this report is to identify the key issues involved with the identification, quantification, mitigation and collection of stranded costs, and to present alternatives and policy options. The pros and cons and impacts of various options and courses of action are delineated in the various chapters of the report, as appropriate. Conclusions and recommendations are expressed where the Group as a whole was able to reach consensus. Because of the diversity of interests represented by Working Group members, only general conclusions and recommendations are possible. Individual Working Group members may not agree with each statement, conclusion or recommendation in this report.

The following are the members of the Stranded Cost Working Group:

Chairman: Maurice Brubaker, Brubaker & Associates, Inc.
Vice-Chairman: Duane Galloway, City Utilities of Springfield
Staff Vice-Chairman: Mark Oligschlaeger, MPSC Staff

Members:
Don Brandt, AmerenUE
Hon. Gary Burton, Missouri House of Representatives
Todd Decker, Citizens Electric Corporation
Hon. Charles Dumsky, City of Sugar Creek
Ivan Eames, Central Missouri County=s Human Development Corporation
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CHAPTER II

Definitions of Stranded Costs

A. Concepts

1. Background

The concern over stranded costs in the electric industry has arisen due to widespread recent efforts to introduce competition into that industry. Based on an assumption that electric utilities are natural monopolies, the prices charged for electric service have generally been constrained by regulation over most of the past century. Under current forms of regulation, the utilities have charged rates based on regulatory findings as to the amount of their prudently incurred expenses and investment. Thus, electric rates have been based on the reasonable and prudent embedded costs of the utilities incurred to provide service to customers.

If competition in generation is feasible and is allowed in the electric industry in Missouri through the policy decisions of legislators and regulators, some portion of electric prices will no longer be dictated by the decisions of the public utility commission, but instead will be determined (at least in theory) by the supply and demand forces of the marketplace. Economic theory holds that the prices of competitive goods and services should approximate the long-run marginal cost of producing the good or service in question. The marginal cost of producing electricity may not be the same as, and in fact may differ significantly from, the current embedded cost of electric production reflected in current rate levels. Utilities whose embedded cost of electricity is in excess of the market price of electricity as determined in an open and free market will suffer the phenomenon of Astranded costs.@ Stranded costs can therefore be simply defined as the embedded investment made by electric utilities to provide service to customers that will not be recoverable in the price of electricity set in a competitive market. (It is expected that some utilities= embedded cost levels will result in prices that are less than the expected marginal cost of producing electricity. Therefore, these utilities would be able to raise the prices currently charged for electricity in a competitive market. This phenomenon is referred to in this Report as Anegative@ stranded costs.) This entire discussion is addressed in more detail in Report III, AChanges in the Pricing of Electricity: An Explanation of Regulated and Market Pricing,@ by the Staff Team of the Missouri Public Service Commission on Electric Industry Structure and Market Power, dated December 1997.

The perceived gap between the estimated market price of electricity and the current embedded cost of electricity currently reflected in rates, which has fueled the push to introduce competitive forces into the industry, has been caused by several factors. One reason is recent technological advances in the production of electricity from gas-fired generators, which has significantly reduced the marginal cost of electricity compared to prior generation technologies. Another reason is that certain generating technologies (such as nuclear power) and governmental rules (such as mandated utility purchases of power from independent power producers at Aavoided cost@) for various reasons produced power prices far above projected levels, and ultimately far above current estimates of the market price of electric power.

Stranded costs can be incurred by any type of utility that has been subject to regulation and will be subject to competitive pressures. Those utilities may include investor-owned utilities, municipal utilities, and cooperatives, depending on the extent of deregulation (if any) that is decided upon for Missouri through the restructuring process.

Since the Commission does not regulate the municipal and cooperative utilities (with the exception of Citizens Electric Corporation), the focus of this report is on the investor-owned utilities. (The views of the State=s municipal utilities and cooperatives on stranded cost matters at this time are attached to this report as Appendices A and B, respectively.)

Stranded costs are not an isolated concern of the electric industry. Any time a previously regulated industry is introduced to competitive pricing concepts, stranding of costs may occur. In fact, prior to the recent discussion of the possible implementation of competition for the electric industry, some deregulatory actions took place in the regulated natural gas and telecommunications industries. Accordingly, stranded costs arose as a concern to both those industries as the prices charged became more subject to market forces. The literature available on the subject suggests that incumbent utilities in both the natural gas and telecommunications industries received partial, not total, recovery of any stranded costs they incurred as a result of the move to competition.

2. Terminology

There are any number of terms currently in use around the country that signify the concept of Astranded costs@ described above. These terms include stranded investment, above market costs, uneconomic costs, costs in excess of market prices, and others. Because Astranded cost@ is the most widely used term of art for the subject matter of this report, we have chosen to use this term consistently throughout the report.

3. Stranded Costs in Missouri

Because stranded cost estimates depend, among other things, on an assumed future market price of power, it is impossible at this time to provide a definitive picture of future stranded cost levels applicable to Missouri. There currently exists a wide range of estimated values for the future competitive price of electricity. Under one set of assumptions, there may be no stranded costs at all in Missouri at the onset of competition; under another set of assumptions, there may be a significant level of stranded costs. Given the uncertainty that now surrounds the timing of the introduction of any competitive initiatives in this state, as well as the uncertainty regarding the future market price of electricity, among other factors, the Working Group did not believe it would be a productive use of its time and resources to attempt at this time to estimate stranded costs for Missouri jurisdictional utilities. (See Chapter III, Section E, for estimates that have been made by independent parties.) Nonetheless, there are several conclusions that can reasonably be reached at this time.

First, any positive stranded cost levels that may be exposed in Missouri if competition is introduced are likely to be largely associated with the two nuclear units that currently provide service to Missouri customers. These units are the Callaway unit, owned in entirety by the Union Electric Company, and the Wolf Creek unit in Kansas, owned 47% by Kansas City Power & Light Company. Second, even if some Missouri utilities are believed to be likely to incur positive stranded costs if competition is introduced, (i.e., their rates will be above market levels), it is equally likely that other Missouri utilities will experience negative stranded costs if competition comes (i.e., their current rates will be below market levels.) Any restructuring policy in this state regarding stranded costs must be responsive to the situation in which both positive and negative stranded costs will be experienced by different utilities, and attempt to provide appropriate customer and shareholder protection measures under either scenario.

4. Other Jurisdictions

Other state jurisdictions (and the Federal Energy Regulatory Commission) have a considerable head start on Missouri in considering different components of stranded cost policy. We have attached as Appendix C a summary of the actions and decisions made by other state jurisdictions of which we are aware concerning stranded cost recovery policies, through the end of 1997.

The experiences of other jurisdictions in regard to stranded costs should only be applied with caution to Missouri. Most of the states reflected in Appendix C appear to be higher cost electricity states than Missouri; indeed, that is why there were greater pressures on these jurisdictions to move expeditiously on electric restructuring matters than in Missouri. Accordingly, the magnitude of stranded costs in these states will likely be greater than that which may be experienced in Missouri, and the approaches used in these states may or may not be appropriate for Missouri.

However, it is possible to generalize to some extent about the actions these states have taken regarding stranded costs. First, most jurisdictions appear to have provided for the opportunity for recovery of most or all of the stranded costs their utilities will incur once competition is implemented. Second, most jurisdictions addressing stranded costs of which we are aware state as a matter of policy that utilities must mitigate their stranded costs prior to recovery. Third, most jurisdictions that express an opinion on quantification methodologies state a general preference for market-based methods of calculating stranded costs, compared to administrative methods. These topics will be addressed separately in this report.

B. Specific Items

1. Introduction

Before discussing individual categories of costs that are commonly thought to be susceptible to potential stranding, it should be emphasized that any type of generation cost can be stranded if the generating component of electric service is opened up to competitive pressures. This includes direct costs of generation, indirect costs, overhead costs, allocated costs, etc. If competition is allowed in this jurisdiction, any cost that would properly be reflected in an unbundled rate for generation will be potentially exposed to stranding.

Also, any examination of stranded cost recovery claims should encompass all categories of costs that are agreed to be appropriate potential sources of stranded costs. For example, basing a claim for recovery of stranded costs solely on regulatory assets, with no analysis of long-term contracts and generating unit assets (if all these costs are deemed to be appropriate stranded cost categories), might result in a misleading picture of the utility's actual stranded cost exposure. In particular, all potential sources of both positive and negative stranded costs should be considered in determining the amount of stranded cost recovery that is reasonable (if any recovery of stranded costs is ultimately allowed).

The following categories of generation costs are widely thought to be the most material contributors to stranding of costs. Of the categories listed, generating assets and long-term contracts have been treated as stranded costs in every jurisdiction that has made a policy determination on stranded cost categories. With few exceptions, most jurisdictions have also included regulatory assets as an allowable stranded cost. For the categories of nuclear decommissioning and public policy costs, there appears to be no consensus on stranded cost treatment in other jurisdictions; some judging these items as acceptable stranded costs, with other states refusing such treatment.

Some jurisdictions have proposed to include in stranded cost charges amounts related to employee costs (severance packages, retraining expenses, etc.) and other restructuring costs (costs to set up independent system operator structures or power exchanges, etc.). We have chosen not to list these categories in this section, because some believe they do not represent true stranded costs but are rather in the nature of Atransition costs.@ Also, some believe that the revenue enhancement mitigation techniques that are described in Chapter V of this report should be considered as an additional stranded cost category that can provide negative offsets to positive stranded costs when the net magnitude of stranded costs is calculated. If potential revenue enhancements (sometimes referred to as "transition benefits") associated with the competitive opportunities expected in a restructured electric industry are included in stranded cost calculations, then these same revenue enhancements should not be considered to be mitigation techniques.

2. Cost Categories

a. Generating Plants This category includes the generating units used by utilities to produce power for sale to their customers or for sale to other utilities. These units run the gamut between the high capital cost baseload nuclear and coal units that produce the bulk of the power actually serving customers and the relatively low capital cost combustion turbines generally used to meet load peaks only. In an industry that is viewed as capital intensive, capital needs associated with generating units ordinarily have been the greatest contributor to electric utilities’ capital investment, and therefore are potentially one of the largest sources of stranded costs for those utilities that face above market costs.

Of the various types of generating units, it is widely held that nuclear plants are likely to be responsible for most (but not necessarily all) of the potential stranded investment associated with generating assets. While nuclear units can be among the lowest cost units on a short-run marginal cost basis, the very high capital costs associated with this type of technology have led to a widespread actual result that most nuclear units will produce above market-priced power.

Other types of generating technologies, including fossil fuel units (coal and gas-fired), are viewed as much less likely than nuclear facilities to result in stranded costs in a competitive market. In fact, some studies have indicated that, taken as a whole, generating technologies other than nuclear will produce net negative stranded costs nationwide. This means that in the aggregate, the book value of these types of generating facilities will be less than the estimated market value of these units. In general, we see no reason to quarrel with this expectation as it applies to Missouri specifically.

Given that a utility’s generating units can produce either positive or negative stranded costs, it is crucial that all of a utility’s generating facilities be analyzed for stranded cost exposure if stranded costs are to be quantified, so that a company’s overall stranding situation can be properly analyzed. Examining some, but not all, of a utility’s generating units for potential stranded costs can present a slanted and biased depiction of its true stranded cost exposure.

b. <u>Long-Term Contracts</u> Utilities do not generally supply all the power necessary to serve customers within their service territory from generators they themselves own or have an interest in. Nor does all the power their generating units provide necessarily go to customers within their service territories. Instead, an Ainterchange@ market exists in which utilities can make power transactions with each other. This market allows utilities to purchase power from other power producing entities when such purchases are less expensive than the utilities producing the power themselves. The interchange market also allows utilities to sell power to other entities when the utility has capacity on its system beyond what is needed to serve its own customers at any point in time.

Sometimes utilities enter into Afirm@ long-term contracts to either buy or sell power to other entities, often in lieu of the buying utility constructing capacity to serve its customer base. (The term Afirm@ means that the selling utility essentially guarantees that the power contracted for will be provided when the buying entity needs it.) Under firm contracts, the buying utility usually pays a Acapacity charge@ to the selling entity for the capacity reserved for its use, and an Aenergy charge@ to reimburse the selling utility for the incremental costs of the power produced for sale in the interchange market. The capacity charge is a fixed cost of the transaction, payable whether power is taken by the purchasing utility or not; with the energy charge being variable with the power actually purchased. Therefore, it is the fixed capacity charge associated with long-term power contracts that is susceptible to stranding under the onset of competition. Such a charge (which may have been set years ago) may be excessive compared to the cost of power that can be obtained in a competitive marketplace.

Utility long-term contracts for fuel supply can also contribute to potential stranding problems, if such contracts reflect liabilities for future supply and transportation costs that are above competitive levels.

Unlike generating stations, which are assets giving rise to potential stranded costs, capacity charges for long-term contracts are liabilities to the purchasing utilities. However, in most respects, stranded costs associated with long-term contracts are similar to stranded costs associated with generating assets. Most important, stranded costs related to long-term contracts can be either positive or negative. In other words, the capacity costs associated with long-term contracts can in some instances be cheaper than the capacity cost of power available in a competitive electric market. Therefore, it is again important that the stranded costs associated with all of a utility=s power contracts be analyzed, or a misleading and inaccurate picture of that company=s stranded cost exposure may be obtained.

Some utilities around the country have very significant potential stranded costs associated with long-term power contracts. Most of these are connected to the PURPA Act of 1978, which required utilities to purchase power from certain Anon-utility generators@ (NUG) at the Aavoided cost@ of power to the purchasing utility. (AAvoided cost@ is the cost to the utility of obtaining the next increment of capacity needed to serve customers.) The utilities= avoided costs were determined administratively by regulators, which in many instances produced estimates that in retrospect grossly overstated the actual avoided cost values. Where NUG purchases are common, such as in California and the Northeast, long-term contract stranded costs may exceed stranded costs related to generating units for a given utility. However, while there may be individual contracts that may give rise to positive stranded costs in Missouri, there have been no significant NUG purchases under PURPA in this jurisdiction. For this reason, we do not foresee that this category of stranded costs will be a serious problem in Missouri.

c. **Regulatory Assets** These items are assets created by the actions of regulators. For example, a regulatory commission might order that a particular cost ordinarily charged to expense by the utility in the period it is experienced instead be capitalized on the utility's books as an asset and recovered in rates from customers over a defined period of time. These types of costs might include natural disasters (storms and floods), deferred taxes or costs the utility is specifically ordered by regulators to incur. The opposite of a regulatory asset is a regulatory liability, which is a gain a utility would normally book to income in the year it is experienced, but regulators instead order be reflected as a liability on the utility's books where it can be passed on to customers in rates over a set period of time.

Regulatory assets and liabilities can be stranded because they have value to utilities or their customers only because the utility's rates are set by regulators, who have the power to reflect the impact of regulatory assets and liabilities in rates. In contrast, in a competitive market, market forces will establish the ongoing prices for electricity generation, and the previous decisions of regulators to account for certain generating costs in a particular manner will be irrelevant. (Note: only those regulatory assets and liabilities that are directly or indirectly related to the generation function can be stranded due to electric restructuring. Transmission and distribution regulatory assets and liabilities will not be subject to stranding.) Therefore, under a competitive pricing regime, generation regulatory assets will be valueless, and the entire balance of a utility's generation regulatory assets (net of regulatory liabilities) should be considered stranded under competition.

In contrast to regulatory assets, stranded regulatory liabilities are a source of negative stranded costs to utilities under competition, and should be considered in any stranded cost analysis along with regulatory assets. Some jurisdictions consider over funded utility pension plans (for which ratepayers are the source of cash contributions) as a regulatory liability for stranded cost purposes. Other jurisdictions consider the amount of deferred taxes paid in rates by customers in advance of payment to the taxing authority by the utility also to be a valid offset to stranded costs, even though such tax prepayments are not technically classified as regulatory liabilities by utilities.

d. **Nuclear Decommissioning** This item refers to expected future expenditures to dismantle nuclear generating units and take necessary efforts to clean up the generating sites. The costs to decommission nuclear facilities are expected to be quite substantial, and under current law utilities are required to precollect in customer rates costs associated with nuclear decommissioning and deposit them in a trust fund. (Precollection in a trust is not only predicated on the expected substantial liability for this item, but also on the public health concern that the financial ability of the utility to undertake nuclear unit clean-up not be impaired when the unit stops generating electricity.) In a competitive market, it is expected that nuclear decommissioning costs will be stranded, as entities competing with incumbent utilities will not have to reflect those specific costs in the prices charged.

One important policy question regarding stranded cost recovery related to nuclear decommissioning is whether such calculations should be cut off to reflect only the current estimate of future decommissioning costs now reflected in customer rate levels or whether stranded cost recovery should be updated to reflect changing estimates for this cost item. Also, if stranded cost recovery is allowed only for a relatively short period of time, should nuclear decommissioning stranded costs similarly be subject to a shortened time frame for recovery? Because the public health aspects of nuclear decommissioning costs differentiate this item from other potential sources of stranded costs, some jurisdictions have made policy decisions to collect nuclear decommissioning costs in a separate charge from other stranded cost quantifications, so no specific time limit for recovery will apply to this discrete item.

e. <u>Cost for Public Benefits Programs</u> This item relates to obligations of utilities imposed by governmental or regulatory bodies, the costs of which are determined to be the public policy of the state. These costs might include tax collection, environmental improvement and compliance expenditures, funding to help low income customers, research and development expenses for energy efficiency and renewable resource technologies, demand-side planning costs, and any other type of expenditure for a public purpose that is being funded through utility rates, as opposed to general taxation revenues.

These costs will be stranded if there is no obligation imposed on potential competitors of incumbent utilities to similarly incur these expenses or the incumbent is not allowed to continue to collect these costs through a nonbypassable wires charge. It is our understanding that the Public Interest Work Group will address the appropriate disposition of this category of costs in its report to the Retail Electric Competition Task Force.

CHAPTER III

Identification and Determination of Stranded Costs

A. Introduction

The question of the best method to calculate stranded costs is controversial, largely because the values of the major assumptions that enter into the calculation (in particular, the future market price of electricity) are uncertain at any point in time. Therefore, stranded cost calculations are dependent in large part on forecasts relating to unpredictable future events, and the amount of stranded cost recovery advocated by any party is inherently tied to that party=s subjective judgment.

The major dispute in stranded cost quantification that has arisen in other jurisdictions is whether an Aadministrative@ or Amarket@ type of approach to calculation is most appropriate. This question will be examined in some detail in this report. There is also a question as to the level of detail necessary in making stranded cost determinations (Atop down@ versus Abottom up@ approaches), which primarily relates to administrative methods of calculating stranded costs. This concern will be examined briefly as well.

Most of the controversy surrounding stranded cost quantification specifically involves the cost categories of generating asset and long-term purchase power contracts. This is because any stranded costs associated with these categories result from an excess of their book values over their market values. The market values of these categories can only be derived by actually placing them on the market or by performing a simulation to estimate how much the assets and/or contracts will be used under conditions of true competition. Either approach to valuing the generating assets and contracts has significant limitations under certain circumstances, as will be discussed.

Quantification of the other stranded cost categories listed in Chapter II should not be as difficult. Regulatory assets by definition should have a market value of zero under competition; so the entire net balance of a utility=s regulatory assets on the books at the time competition is initiated should be considered as part of stranded costs. There are already processes set out in this jurisdiction to estimate future nuclear decommissioning costs; these methods could also be used for stranded cost quantification purposes. Quantification of public policy costs for stranded cost purposes should also be relatively straightforward.

Finally, the issue of the use of Atrue-ups@ to correct stranded cost estimates over time is related to the quantification method used to calculate stranded costs, and will be discussed in this section of the report as well.

B. Overview of Market and Administrative Methods of Calculating Stranded Costs

1. Market-Based Methods

Stranded costs can be quantified using market valuations of generation assets or competitive power prices. Market mechanisms provide an objective and definitive measure of the market value of assets. Thus, the use of such mechanisms can avert the need for prolonged legal proceedings to establish subjective, administratively determined market price levels to quantify stranded costs. Market mechanisms are attractive because the result of the market process *defines* the market value of the assets. Entities willing to buy assets that may be the source of potential stranded costs will by necessity base their proposed purchase price on assumptions concerning the future market price of electricity and their ability to profitably operate the generating asset or group of assets in a competitive market. The proposed purchase price of the asset(s), if accepted, becomes a fixed, one-time only valuation of the market value of the asset(s), and thus will produce a fixed and unchanging stranded cost value. This, in turn, would reduce much of the controversy surrounding the quantification of stranded costs. Under a market quantification approach, the purchaser of generation assets shifts the risk associated with changing values in the future market for electricity away from the former owner and its customers by assuming the risk itself.

While market mechanisms can reduce the litigation surrounding the quantification of stranded costs, this desirable feature is not without some downside risk. Because market mechanisms cannot be effectively subjected to a stranded cost true-up, such methods of quantifying stranded costs could result in customers paying excessive prices for power or utilities undercollecting stranded costs in a competitive environment. For example, if a market mechanism produces a competitive power price of 2**4** per kWh to quantify stranded costs, and the market clearing price subsequently rises to 4**4** per kWh within two years, customers would be required to pay a high stranded cost charge based on the initial market valuation of stranded costs, in addition to the higher power prices that ultimately prevail in the market. Some experts suggest that customers wishing to minimize their exposure to this eventuality can sign fixed price contracts or use price risk hedging mechanisms such as options contracts in competitive retail markets.[1]

Of course, market prices and competitive asset valuations will always fluctuate with changing market conditions. Therefore, a Asnapshot@ assessment of stranded costs based on a market mechanism will always contain a margin of error when that assessment is evaluated in hindsight. However, one can argue that because the market mechanism

[1] Jonathan Lesser and Malcolm Ainspan, Using Markets to Value Stranded Costs, *The Electricity Journal*, October 1996, p. 71.

defines the market value of an asset at a given point in time, and the risk of an inaccurate forecast of future market values is assumed by the purchaser, ex post assessments of market asset values are inherently meaningless.

A major question in near term use of market methods to quantify stranded costs is whether the uncertainty inherent in the current transition to retail competition would cause bidders to significantly discount the prices they are willing to pay for generation assets, or whether the introduction of retail access is likely to have a sizeable impact on competitive power prices. For example, some analysts have suggested that the introduction of retail access could create upward pressure on competitive power prices relative to current levels by increasing the number of customers competing for a given supply of electricity.[2] However, it is unclear whether this phenomenon is likely to be realized if aggregate supply and demand levels for electricity remain relatively constant after the advent of retail competition. It has also been suggested that because there is little precedent for generation asset sales in the U.S., the risk associated with the absence of price comparables from prior asset sales could cause parties to discount the prices they are willing to pay for generation assets.[3]

On the other hand, it is possible that market mechanisms applied to today's market conditions could produce a price premium for generation assets. For example, generation asset sales that occur prior to the advent of retail competition to a particular market could garner high prices because they provide competitors with an easy means of entry into emerging power markets. For the reasons described above, it is possible that the

[2]Judah Rose, Shanthi Muthiah, and Maria Fusco, Is Competition Lacking In Generation? (And Why It Should Not Matter), *Public Utilities Fortnightly*, January 1, 1997, p. 26.

[3]Jonathan Lesser and Malcolm Ainspan, Using Markets to Value Stranded Costs, *The Electricity Journal*, October 1996, p. 73.

application of market mechanisms to today=s market environment could produce inaccurate quantifications of stranded cost levels in the long run.

Recognizing that market values may change over time for a variety of reasons, some of which are related to the advent of retail competition, one could consider delaying the market valuation in order to allow part of this phenomena to be reflected in the market. For example, if retail access is to begin January 1, 2000, it might make more sense to perform the market valuation in 2001 than to do it in 1999. Doing it after retail competition is available would certainly allow for prospective purchasers to have the benefit of the experience of operating in a competitive retail market; while an early evaluation date would not.

While market mechanisms are in many respects more desirable than administrative determinations of stranded costs for reasons that will be discussed, the preceding discussion demonstrates that the use of market methods also entails a measure of risk. In essence, stranded cost quantification through market mechanisms is a Aone-shot deal@ that contains some downside risk for customers and utilities. The various risks and advantages of all stranded cost calculation methods should be considered before advocating any one conceptual approach.

2. Administrative-Based Methods

The quantification of stranded costs necessarily depends on the expected level of competitive market prices for electricity, as well as the future operating costs and capacity factors of existing generation assets. Small changes in the forecasted levels of these parameters can produce significant changes in the expected magnitude of a utility=s stranded cost exposure.

Administrative methods of quantifying stranded costs rely on the results of a contested case proceeding before a regulatory commission to establish these parameters. With an administrative method using a Abottom up@ (detailed) approach, computer models are often used to simulate a dispatch system for individual generating units operating under a competitive regime. A large number of assumptions must be made in order to perform the simulation. It is necessary to make a long-term forecast of the year-by-year values for market price of capacity, market price of energy, and operating costs associated with all existing generation assets. The generation asset costs that must be forecasted include fuel expense, operation and maintenance expense, property and other taxes related to the operation of the unit, expected capital additions, any other expected cash expenditures, as well as the appropriate discount rate (cost of capital). The development of stranded costs using this approach would require that the expected net cash flow from the sale of power from each asset (a function of sales volumes, market price and cash cost) be determined over the remaining life of the asset and then present valued using an appropriate discount rate. The difference between the net present value of the cash flow so determined and the book value of the asset would be a measure of the strandable costs.

When this approach is applied, it is necessary to look at the generation resources on a unit by unit basis in order to screen out the effects of any units where the going forward costs exceed the value of the sale of energy in the market. That is, if the going forward cost of the unit exceeds market price, costs can be minimized by shutting down the unit and not operating it, rather than by operating the unit and incurring net out-of-pocket expenditures.

In contrast, administrative methods using a Atop down@ approach focus on the overall revenue levels of the utility instead of the value of the individual generating assets as the source of the stranded cost calculation. This type of analysis uses estimates to compare the amount of revenues a utility would have received under traditional regulation with the amount to be received under competitive conditions. The difference in the two amounts would be Alost revenues@, which could be recouped through a stranded cost charge. It is important to understand that a top down or lost revenues approach to measurement of stranded costs is still dependent upon assumptions about the ability of a utility=s generating assets to remain competitive in a retail access environment. Unlike a bottom up approach, such assumptions are not made in an explicit manner, but are instead made in a simplified fashion.

Administrative determinations of stranded costs are likely to result in complex, highly contested regulatory proceedings. Given the inherent subjectivity of the assumptions entering into the calculation, it is reasonable to foresee wide divergence among the parties to stranded cost proceedings as to the recommended amount of stranded cost recovery. Also, regulators= traditional inability to accurately forecast utility avoided costs demonstrates that administrative forecasts of electric utility economic parameters, taken by themselves, are unlikely to yield accurate results.

Recognizing the inherent uncertainty in many of the forecasts, the risk of error can perhaps be reduced by future "true-ups" or "sanity checks" on the initial forecast. This approach would apply a "new look" from the point of examination to the end of the life of the asset being evaluated. New values for market price would be determined based on more current information, and experience with respect to cost reductions and improvements in efficiencies by the utility operating the asset and changes in sales volume would also be incorporated. To the extent that the Commission had specified cost reduction targets for the utility, they would be incorporated into the valuation equation. While this approach helps overcome some of the more fundamental data problems inherent with an administrative evaluation, it must be recognized that at any point in time when a true-up is performed, there still must be a forecast of all relevant parameters over the remaining life of the asset. The risk of forecast error in an administrative approach cannot be eliminated at any point in time during the life of the asset. Further, a failure to continue to forecast to the end of the life of the asset could result in a biased approach wherein customers would have paid all upfront costs when costs exceed market value, but would not enjoy the benefits later on when costs would be less than market prices.

Regarding top down approaches to calculating stranded costs, it is an error to assume that all revenues that may be lost as a result of competitive access should be recoverable through a stranded cost charge. For example, part of a utility's existing revenue base is related to the variable costs of operating its generating units. Such costs may be reduced by ongoing efforts by a company to operate its plants in a more efficient manner, or may be eliminated in entirety by shutting down the unit in question. Under such a circumstance, a utility receiving stranded cost recovery based on the lost revenues approach would be the beneficiary of subsidies that provide compensation for variable plant operating costs that it no longer incurs. The same logic applies to other costs included in regulated rates that could be reduced or avoided by utilities in a competitive environment. For this reason, the only generation plant costs that could be potentially strandable costs are the sunk, fixed, capital costs associated with existing generation assets, plus truly unavoidable operating costs, if any.

Before turning to a discussion of the various quantification methods that have been used or are being considered for use in other jurisdictions, it should be mentioned that few quantification methods are purely administrative or purely market-based. While sale/spin-off methods of quantifying stranded costs for generating assets directly rely on market valuations created by third party transactions to value stranded costs, other techniques sometimes referred to as market methods use proxy Amarket@ valuations of assets to value stranded costs, while leaving ownership of the asset in question unchanged (i.e., Aappraisal@ quantification methods). On the other hand, administrative methods can rely to some degree on market values measured or used by the individuals estimating the stranded cost amounts. Some of the methods discussed herein could be regarded as Acombination@ methods, reflecting aspects of both market and administrative approaches.

The next section will discuss certain stranded cost methodologies, starting with those considered more market-based, and ending with those considered more administrative in nature.

C. Mechanisms for Quantifying Stranded Costs

Several market or Acombination@ (reflecting both an administrative approach and an element of market information) mechanisms for quantifying stranded costs have been proposed in the electric industry restructuring debates that are taking place across the country. These mechanisms include:

< Asset sales to third parties through an auction or a negotiated sale;

< A spin-off, or a spin-down, of generation assets into a separately traded entity;

< An independent appraisal of the market value of generation assets;

< A solicitation, or reverse solicitation, for competitive power supplies;

< Use of a market price index to establish competitive power prices; and

< Independent determination of market price.

The first two listed methods (asset sales and spin-off/spin-downs) are pure market approaches which result in a market value for the asset in question being determined, and ownership of the asset in question changing hands in the course of an arms-length transaction. The independent appraisal method results in a market value approximation for the asset, but ownership of the asset does not change hands. Along with the independent appraisal method, the last three listed approaches are more in the nature of Acombination@ methods; they are technically administrative-type approaches involving numerous assumptions, but with explicit provisions for incorporation of certain market information relating to the market price of electricity into the stranded cost calculation.

Each of these market or combination mechanisms has its advantages and drawbacks. While most of the quantification methods contemplated above have few, if any, precedents in the U.S. electric industry, this paper will discuss any practical applications of these market-type mechanisms to date that are relevant to the quantification of stranded costs.

Several public utility commissions have issued orders in causes where administrative-based methodologies have been contested. Results for the following categories of administrative proceedings are also briefly recounted:

< Bottom-up administrative

< Top-down administrative

1. <u>Auction or Negotiated Sale</u>

The most direct market mechanism for quantifying stranded costs is through arms-length, competitive asset sales to third parties. Under this approach, the stranded costs associated with the sold assets would be determined by offsetting the sale price of the assets against their net book value. These assets sales could be accomplished either through private negotiations with potential purchasers or through an open auction process. This market mechanism is attractive in that it establishes a market price for individual utility generation assets. Utility purchased power contracts could be auctioned or sold in a similar fashion to determine any stranded costs that might be associated with them.

An auction of generation assets is the most frequently applied market mechanism for quantifying stranded costs that has been proposed to date in the U.S.[4] This method is being implemented by Pacific Gas and Electric Company (PG&E) and Southern

[4] Generally, where divestiture methods have been used to quantify stranded costs, market power concerns were also instrumental in the legislature and/or regulatory agency ordering or encouraging use of the divestiture approach.

California Edison Company (SCE) in California, the New England Electric System (NEES), COM/Electric, Eastern Utilities Associates, and Boston Edison Company in Massachusetts, and by Central Maine Power Company and Maine Public Service Company in Maine, among others. In New York, Con Edison has also committed to sell one-half of its generating capacity in New York City. In California, San Diego Gas & Electric Company recently decided to auction its two fossil-fired power plants.

While there are differences in the conduct of each utility asset auction, the basic auction processes proposed by the above referenced utilities are similar in most respects. In the initial stage of the process, the utility sends out letters to a wide range of national and international electric utilities, energy companies, independent power producers, power marketers, private power developers, financial institutions, electrical equipment manufacturers, and other potential buyers of the utility's assets. These letters provide a basic description of the auction process and the assets to be sold. The utility then pre-qualifies potential bidders who indicate interest in its plant auction. These pre-qualified bidders are sent a more detailed offering memorandum and asked to submit initial offers for the assets by a date certain. Interested bidders are then required to submit initial, sealed bids containing a specified price level or an acceptable price range for individual assets or asset groupings.

The selling utility then reviews the bids and selects a number of first round bidders who qualify for the second round of bidding. The utility sends qualifying second round bidders further information on each of its generation plants and gives them the opportunity to conduct their own due diligence reviews of the assets, including on-site presentations on the power plants. The second round bidders are then required to submit final bids for their selected assets. If the final bids differ from the initial bids, the utility typically requires the bidder to specify the economic, technical, and other considerations that led to a revision of the bid. In the final stage of the auction, the utility selects the winning bidder(s), signs sales contracts for the assets, and submits these contracts to the appropriate regulatory commission for review and approval of the asset sales.

An auction process is generally more desirable from the customer perspective than a privately negotiated asset sale because the auction process attempts to increase the amount of competition to purchase an asset, thereby maximizing the asset's price. However, there are several factors relating to the design of a competitive auction that can significantly influence the resulting asset prices.

One concern pertains to whether the selling utility will directly participate in the auction. Because many utilities in the U.S. are reluctant to contemplate generation asset divestiture, jurisdictions such as California and Texas have considered the possibility of conducting asset auctions in which the selling utility would be allowed to participate in the auction, either directly or through an affiliate, and retain a right of first refusal to match the bids of other parties, thereby giving the utility the opportunity to retain ownership of its generation assets while accomplishing a market-based quantification of the utility's stranded costs. The risk is that right of first refusal auctions could depress asset prices by reducing participation in the auction and causing participants to discount their bids for assets. Of course, another option is that selling utilities could be given the right to submit bids for their own assets, without also being given the right of first refusal.

Another important issue in the design of asset auctions is whether the assets are sold individually or in groupings. In California, SCE proposed to group its auctioned generation assets into bidding bundles. This procedure effectively restricts the ability of bidders to purchase assets individually.[5] By contrast, PG&E designed its auction to give bidders the flexibility to bid on individual assets or asset bundles of their own choosing.[6] In New England, NEES allowed potential buyers to bid on three different generation packages: (1) its non-nuclear generation assets as a whole, (2) its fossil fuel plants as a bundle, and (3) its hydroelectric plants as a bundle. NEES also hopes to sell its ownership interests in regional nuclear plants through a separate process.[7]

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[5] Southern California Edison, Application of Southern California Edison for Authority to Sell Gas-Fired Electrical Generation Facilities: Description of the Proposed Auction Process, California Public Utilities Commission, November 1996, p. 13.

[6] Pacific Gas & Electric, Pacific Gas And Electric Company's Testimony Supporting Authorization To Sell Certain Generating Plants And Related Assets Pursuant To Public Utilities Code Section 851, California Public Utilities Commission, November 1996, p. 2-4.

[7] Electric Power Alert, NEES Generation Auction Lures 25 Bidders To Snap Up Fossil Generation, April 9, 1997, p. 13.

Given the paucity of practical experience with generation asset auctions, it is difficult to assess whether the use of bidding bundles will enhance or depress asset values. On the one hand, the sale of asset bundles could enhance asset values by giving buyers the opportunity to take advantage of synergies and operational efficiencies associated with joint ownership of certain generation assets. For example, SCE grouped its gas-fired plants into asset bundles based on geographic proximity, thereby allowing buyers to realize savings through the sharing of inventories, maintenance personnel, and supervisory staff among the plants in each bundle. SCE also asserted that sale of its generation assets in bundles would reduce the likelihood of thin bidding for particular plants, which might occur if bidders are forced to allocate their finite time and resources among several, simultaneous, individual plant auctions. Finally, SCE stated that the sale of its generation assets in bundles, rather than individually, would reduce the transaction costs of conducting the auction and accelerate the timetable for divestiture.[8]

While the use of bundles can produce certain benefits that enhance asset values, particularly through the synergies created by common ownership of multiple plants, it is also possible that the forced sale of assets in bundles could depress total auction proceeds by eliminating the ability of bidders to purchase individual assets. Based on their own assessments of plant and market characteristics, certain bidders might be willing to pay a price premium for specific power plants that they might not be prepared to pay if they were forced to purchase a particular plant as part of a larger asset bundle. Of course, it is always possible to design an auction in a manner that grants bidders the flexibility to bid

[8]Southern California Edison, Application of Southern California Edison for Authority to Sell Gas-Fired Electrical Generation Facilities: Description of the Proposed Auction Process, California Public Utilities Commission, November 1996, pp. 15-18.

on individual assets or asset bundles of their own design. It appears that such a flexible auction process would be the best method of maximizing auction revenues. Apparently accepting this logic, the CPUC recently ruled that SCE must allow bidders in its asset auction to submit bids on any combination of plants in the auction.[9]

[9] California Public Utilities Commission, In the Matter of the Application of Southern California Edison (U 338-E) for Authority to Sell Gas-Fired Electrical Generation Facilities, Interim Opinion, Decision 97-09-049, September 3, 1997, p. 18.

Another major issue in the design of asset auctions is whether asset sales should be conducted simultaneously or phased-in over time. Some analysts are concerned that simultaneous asset sales representing large quantities of generation capacity could result in Afire sale@ prices by creating a glut of generation available for sale in a regional market. Obviously, such an eventuality would artificially inflate a utility=s stranded cost levels if an auction process is used to quantify the utility=s stranded cost exposure. On the other hand, it can be argued that conducting an asset auction simply transfers ownership of generation among market participants, rather than changing aggregate supply and demand levels for power. In this view, so long as aggregate supply and demand levels remain constant, simultaneous auctions of multiple generation assets are not likely to depress asset values.[10]

[10]Jonathan Lesser and Malcolm Ainspan, Using Markets to Value Stranded Costs, *The Electricity Journal*, October 1996, pp. 72-73.

2. Nuclear Asset Auctions or Negotiated Sales

In the case of nuclear assets, many analysts are concerned that the risk of future changes in regulations, such as nuclear safety and decommissioning requirements, is so large that it will result in massive discounting of nuclear asset market values or eliminate the possibility of selling nuclear plants altogether. The regulatory risks associated with nuclear plant ownership were underscored by the Nuclear Regulatory Commission's (NRC's) recent policy statement on electric industry restructuring. In that statement, the NRC indicated that it will impose more stringent decommissioning requirements on unregulated electric companies that acquire nuclear assets. Such requirements could include full, up-front funding or some form of guaranteed payment of estimated decommissioning costs. Moreover, the NRC stated that it reserves the right to impose joint and several liability on the co-owners of nuclear plants if one or more co-owners defaults on its obligation to pay for plant operating and decommissioning expenses.[11]

These NRC policies impose substantial risks on potential buyers of nuclear assets. In addition, prospective buyers would be exposed to the risk that even more stringent regulatory requirements could be imposed in the future, thereby reducing the value of their nuclear assets.

While there have been some recent expressions of interest to purchase nuclear facilities in the United States, to date no such efforts have succeeded. It is likely that the sale of nuclear assets can be made more attractive in the marketplace if an effort is made to minimize the regulatory risks faced by potential buyers. For example, potential buyers may have more interest in marketing a nuclear plant's output than purchasing the asset

[11] Nuclear Regulatory Commission, Final Policy Statement on the Restructuring and Economic Deregulation of the Electric Utility Industry, 10 CFR Part 50, August 13, 1997, pp. 10, 11, and 13.

outright. Buyers might be willing to assume some operational risks associated with nuclear facilities if they can avoid the decommissioning risks that come with plant ownership.

Such a separation of risks could be accomplished by requiring the selling utility to retain responsibility for a fixed percentage or dollar amount of a nuclear plant's future decommissioning costs. Consistent with the electric industry restructuring agreements negotiated to date in the U.S., the selling utility's share of plant decommissioning costs, or a portion thereof, could then be included in its stranded cost assessment to customers in its traditional service territory.

The value of distributing risk in marketing nuclear assets is reinforced by the United Kingdom's experience in privatizing its nuclear industry. The Thatcher Government was able to accomplish this privatization in the Summer of 1996 by floating the shares of a newly created, publicly traded nuclear utility, British Energy, on the London stock exchange. The success of this privatization effort was, in large part, due to the British Government's willingness to retain many of the operating and decommissioning risks associated with the U.K.'s nuclear fleet. Specifically, the British Government retained ownership of the oldest nuclear plants that were nearing the end of their economic life, and negotiated fixed price contracts with British Energy for nuclear waste disposal services. This arrangement reduced the risks associated with nuclear plant ownership to a level that was sufficient to allow for successful nuclear privatization.[12]

Obviously, the U.K.'s experience differs from that of the U.S. in that American commercial nuclear assets are privately owned. Therefore, the U.S. does not have the

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[12] Kahn, Edward P., Can Nuclear Power Become an Ordinary Commercial Asset?, *The Electricity Journal*, August/September 1997, pp. 19-20.

same degree of flexibility that the British Government enjoyed in managing nuclear risks. Nevertheless, appropriate risk sharing arrangements between private entities could facilitate the sale of nuclear assets in the U.S.

3. Analysis of Auction Results

Although an asset auction is the most popular market mechanism for quantifying utility stranded costs that has been implemented to date in the U.S., there is very little empirical evidence regarding the actual performance of these auctions in valuing utility assets. This is the case for two principal reasons. First, many of the auctions conducted in the U.S. are still in progress. Therefore, the final auction results are not yet available. The selling utilities in these auctions are reluctant to release initial bid results, including the identities of bidders, for fear of distorting the ultimate outcome of the auction. Second, concerns for the confidentiality of competitively sensitive information, both on the part of sellers and buyers, make it difficult to obtain information regarding bid offers or final auction prices for individual generating units. Although the aggregate auction proceeds should ultimately be made public because they will be used to quantify utility stranded costs, it is not clear whether the winning bids for individual units will eventually be publicized.

One factor that should be mentioned with regard to the valuation of utility stranded costs through asset sales is that most utilities are extremely reluctant to engage in such sales, both because they are generally resistant to structural unbundling of their operations and because they do not desire to sell their generation assets to potential competitors. While some utilities across the nation have been very aggressive in rapidly restructuring their companies for retail competition, those not in favor of competition are likely to strongly oppose attempts to quantify their stranded cost exposure through an asset auction or other means that result in asset divestiture.

It is debatable whether regulatory or even legislative bodies have strong legal authority to require the divestiture of generation assets. Because electric utility bonds have typically been backed by the combined assets of the vertically integrated utility, structural separation of integrated utilities through asset sales or other means also creates potentially complicated bond indenture problems that must be resolved. Therefore, it may be difficult to impose mandatory divestiture of generation assets.

The generation asset auctions contemplated or initiated to date in the U.S. are the result of regulatory and legislative actions, as well as restructuring agreements, designed to induce voluntary asset divestiture, generally in exchange for guarantees of stranded cost recovery and other concessions to utility interests in the process of restructuring the electric utility industry in various states.

As previously discussed in the Definitions section of this report, it is probable that most (if not all) of the potential stranded costs in Missouri are associated with the Callaway and Wolf Creek nuclear units. Given the potential difficulties described herein in auctioning off nuclear assets, it is likely that any generating units that may be subject to auction in Missouri in the near future will be fossil fuel units, with net negative stranded costs overall rather than positive stranded costs. Under this scenario, therefore, auctions would not be used in Missouri to directly quantify the stranded costs of those generating assets most likely to give rise to positive stranded costs, but instead would be used to quantify an amount of potential negative stranded costs to offset against the nuclear units= positive stranded costs (presumably quantified by some other means).

4. Spin-Off or Spin-Down of Generation Assets

Another market mechanism for quantifying stranded costs is through a spin-off or a spin-down of a utility=s generation assets. Under this method, stranded costs are quantified through a stock valuation when the utility spins-off its generation assets into a separate, publicly traded, non-affiliated corporation. The market price of the assets would be determined by using the average daily closing price of the stand-alone generation company=s common stock over a specified period of time. Alternatively, the CPUC has suggested that the market price of the spun-off assets could be determined based on changes in the stock price of the original company which spun off the assets.[13] In either case, the utility=s stranded costs would then be determined by offsetting the stock price against the net book value of the utility=s generation assets.

A spin-down mechanism involves essentially the same procedure described above. However, in a spin-down, the utility separates its generation assets into an unregulated affiliate, and distributes new shares of stock in the unregulated affiliate to its existing shareholders. The new affiliate=s stock is then independently traded. Thus, a spin-down can accomplish a market-valuation of stranded costs without requiring complete generation asset divestiture. Also, under either a spin-off or a spin-down, the proceeds of the transaction will generally not be taxable, unlike the situation with asset sales.

A spin-off is one of the most widely discussed means of achieving a market valuation of utility stranded costs. In fact, this mechanism was cited in California=s

[13]California Public Utilities Commission, Docket Nos. R.94-04-031 and I.94-04-032, Order Instituting Rulemaking and Investigation on the Commission=s Proposed Policies Governing Restructuring California=s Electric Services Industry and Reforming Regulation, Decision No. D.96-01-009, January 10, 1996, p. 130.

restructuring legislation as one of the divestiture options available to the state=s major utilities.[14] An asset spin-off has many precedents in various U.S. industries, including the utility sector. The spin-off of Lucent Technologies by American Telephone and Telegraph is perhaps the most widely publicized recent example of this divestiture strategy.

However, this mechanism has yet to be implemented in the electric utility industry. In practice, those utilities facing a choice as to divestiture procedures have chosen to divest themselves of generation assets using an open auction process rather than a spin-off. Are there disadvantages to a spin-off that make this option less attractive than an asset auction?

[14] *See* General Assembly of California, Assembly Bill 1890, August 1996.

First, an auction could produce higher asset prices than a spin-off because buyers might be willing to pay a Acontrol premium@ for the direct purchase of individual assets. A spin-off would result in the creation of a publicly traded company owned by numerous shareholders. Therefore, one entity would be unable to exclusively control the operation of an asset.[15]

Second, a spin-off can complicate the valuation of assets by introducing factors that do not pertain directly to the intrinsic value of the generation assets being sold. For example, investor perceptions regarding the quality of a newly created generation company=s management could influence the new company=s stock price. Investors might also attribute more risk to a newly created, stand-alone company simply because it has no operating history. Such perceptions could lead investors to discount the value of the new company=s assets. A market valuation based on a spin-off can be further complicated if the spun-off company holds assets other than generation assets. In such a case, the market=s valuation of the non-generation assets is likely to be factored into the new company=s stock price. It can be argued that the consideration of such factors is not directly related to the inherent market value of the generation assets themselves. As a result, the value of utility assets could be captured more directly through an open auction.

Another complication with the use of a spin-off to quantify stranded costs is that the spun-off company=s stock price is likely to fluctuate over time. Therefore, a Asnap-shot@ assessment of the newly created company=s initial stock valuation might not accurately reflect the true market value of the underlying generation assets. This problem is exacerbated in the case of a spin-down because the initial stock valuation of the new

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[15]Southern California Edison, Application of Southern California Edison for Authority to Sell Gas-Fired Electrical Generation Facilities: Description of the Proposed Auction Process, California Public Utilities Commission, November 1996, p. 7.

affiliate would be determined by the holding company's management when it distributes the affiliate's stock among its shareholders. However, this problem can be remedied by using the average stock price of the spun-off company over a sufficiently long period of time as the market price of the underlying assets for stranded cost quantification purposes. This approach would be more likely to reveal the true market value of the utility's assets.

As is the case with a bundled asset auction, a spin-off can facilitate the divestiture of nuclear plants at reasonable prices by spreading the nuclear asset risk among a wide variety of generation technologies that are sold as a group. Thus, it might be more feasible to persuade investors to purchase shares in a stand-alone generation company that owns one or two nuclear assets than it would be to persuade a company to purchase an individual nuclear asset.

5. Asset Appraisal

Another quantification mechanism with some attributes of a market approach is an independent appraisal of the utility's generation assets. While this valuation option was included in California's restructuring legislation, it has not yet been implemented in practice to quantify stranded costs.

To implement this option in California, the CPUC suggested that industry stakeholders submit an agreed-upon list of impartial and qualified asset appraisers, from which the CPUC would select no more than three to value a utility's assets. The results of the appraisal would then be used to quantify the utility's stranded cost exposure. If the utility rejected the appraisal, it would then be required to spin-off, or sell, the assets. In addition, the CPUC reserved the right to review and approve the appraisal to ensure that the utility did not improperly reject an appraisal and then receive a lower sale price, an eventuality that would increase the utility's total stranded costs.[16]

The major advantage of the appraisal approach is that it provides a means of arriving at a market valuation of a utility's assets without requiring asset divestiture. Thus, this option is likely to be more palatable to most utilities. An asset appraisal can also be considered superior to an administrative quantification in that the valuation relies on the opinions of independent industry experts, as opposed to the testimony of experts hired by the parties to a contested proceeding.

The use of independent experts to appraise the utility's assets could reduce litigation surrounding the quantification of utility stranded costs. However, this reduction in litigation might not materialize if the regulatory commission uses its approval process to second-guess the appraisal results. If this were to take place, then the appraisal would be effectively transformed into an administrative quantification of stranded costs.

In addition, the dearth of price comparables from other generation asset auctions would make it difficult to assess whether the appraisal resulted in a reasonable market value for an asset. Currently, there are very few completed generation asset auctions in the U.S. that an appraiser could use as a measure of a particular asset's market value. This absence of price comparables introduces a significant element of speculation into the appraisal process.

Finally, an asset appraisal is not truly market-based because it does not rely on the interaction of buyers and sellers in a competitive market to arrive at an asset's value. It is much easier for a regulatory commission to second-guess an appraisal that is conducted

[16]California Public Utilities Commission, Docket Nos. R.94-04-031 and I.94-04-032, Order Instituting Rulemaking and Investigation on the Commission's Proposed Policies Governing Restructuring California's Electric Services Industry and Reforming Regulation, Decision No. D.96-01-009, January 10, 1996, pp. 131-132.

in the abstract than it is to nullify the results of a completed asset auction or spin-off. Therefore, the appraisal mechanism does not produce the definitive market valuation of utility assets that is the most desirable feature of truly market-based quantification mechanisms.

6. Power Solicitation or Reverse Solicitation

An additional market mechanism for quantifying stranded costs is a direct solicitation or reverse solicitation for power. In a direct solicitation, the utility requests proposals for a given quantity of capacity and energy from competitive providers. In a reverse solicitation, the utility auctions a block of capacity and energy in the open market. In either case, the winning bid for the block(s) of power determines the market price for electricity. This market price is then used, along with assumptions about operating costs and characteristics, to calculate a utility's stranded costs. Consumers Energy has proposed to auction off the capacity from its non-utility generator contracts, on an annual basis, to establish a market price for power that can be used to true-up its stranded cost calculation in future years.[17]

The major advantages of the solicitation approach are that it is fairly easy to administer and it does not require asset divestiture or other restructuring of the utility's operations. These features make a solicitation desirable to many utilities, and perhaps to regulators who do not wish to address the issue of asset divestiture.

However, the central weakness of the solicitation approach is that it produces a market price for *power*, not for utility *assets*. Therefore, critical assumptions still must be

[17] Electric Utility Week, Consumers Energy To Use Auction Of NUG Capacity To Determine Stranded Costs, July 21, 1997, p. 15.

made to translate this power price into a stranded cost valuation. Needless to say, each of these assumptions has a significant impact on the amount of a utility's stranded costs.

The first major assumption made in the solicitation approach is that the solicitation results provide a true indication of the regional market price for power. However, this is not necessarily true. Any solicitation will be designed to purchase or sell a certain quality of power for a designated period of time. This solicited power block represents only one type of power that is available in competitive power markets.

Markets attach varying prices to different qualities and types of power. For example, firm power is typically more expensive than non-firm power. Similarly, the average price of spot market energy is often less than the price of a three-year, fixed price contract because purchasers of fixed price contracts are often willing to pay a premium for price certainty. Therefore, it is questionable whether a solicitation for one or two blocks of power can yield a market price that adequately reflects the composite value of the different types and qualities of power that can be sold by a utility's power plants in competitive markets. It might be necessary to auction off several different blocks of power, reflecting a range of capacity factors in order to mirror the expected operating characteristics of base load, cycling and peaking units.

Another variable in the process is the length of the contractual obligation. The price that purchasers would be willing to pay for obligations of three years, five years, ten years, etc., will likely be different. It would seem appropriate that the contractual obligation commit the seller to sell, and the purchaser to purchase, the contractual quantity of power over a period somewhat representative of the life of the underlying assets that are being evaluated.

Moreover, the solicitation approach assumes that a power auction conducted in today's market environment will yield a market price that is representative of future prices in competitive retail markets. This is an unproven and debatable assumption. Prices in regional power markets are likely to increase as existing excess supply is absorbed by growing demand for electricity. In addition, it is possible that the advent of retail access will ultimately create upward pressure on power prices by introducing a large number of new buyers into power markets. Thus, there is a great deal of uncertainty regarding the future pattern of competitive power prices. Therefore, a solicitation conducted under today's market conditions might yield power prices that are significantly different from the regional market clearing prices that will prevail after the advent of retail access. If this proves to be the case, the solicitation mechanism will not accurately quantify a utility's stranded costs.

Concerns regarding the timing of the power auction can be mitigated by conducting the auction after retail competition is introduced in the relevant market area. However, the timing of the auction remains significant even if the power sales take place in a fully competitive environment. For example, the power auction could be conducted while the regional power market remains in an excess capacity situation. This would likely result in lower power prices relative to the price levels that would be observed once excess generation capacity in the region is absorbed.

In order to translate the power prices resulting from a solicitation into a stranded cost valuation, additional assumptions must be made. The solicitation approach is premised on the notion that a utility=s assets should be valued based on the estimated profit margins that its power plants are likely to realize in competitive markets. While this presumption is basically accurate, the difficulty with the solicitation approach is that the key parameters which drive the expected profit calculation are based on administratively determined assumptions.

In a truly market-based asset valuation, potential purchasers of the asset make their own independent judgments regarding projected power prices and plant operating characteristics. The bidders who see the most profit potential in the asset will bid the highest prices. By contrast, the solicitation approach requires regulators to specify the critical cost parameters that are used to value the utility=s assets.

For example, the solicitation method makes critical assumptions regarding plant capacity factors and future operating costs. If the assumed capacity factors are too low or the operating cost projections are too high, the utility=s assets will be undervalued, thereby increasing the magnitude of its apparent stranded costs. Therefore, use of a solicitation, or reverse solicitation, mechanism can produce adverse results unless the regulator can be persuaded to adopt appropriate assumptions for the critical parameters that drive the asset valuation. Due to the information advantage enjoyed by the utility regarding the potential performance of its own assets, this goal might be difficult to accomplish.

7. <u>Market Price Index</u>

Another potential method to achieve a market-based valuation of stranded costs is to rely on a recognized market price index to establish the market price for electricity. This method has been proposed by Detroit Edison in Michigan to true-up its stranded cost calculation in future years.[18] Established market price indices for electricity are evolving for various trading hubs around the country. For example, the trade publication *Power Markets Week* currently compiles price indices for many geographic regions. Such indices could be used to establish a market price for electricity that would form the basis for a market valuation of assets.

The advantages and disadvantages of using a market price index are similar to the ones cited for the solicitation approach. On the positive side, this mechanism is relatively easy to administer, relies on objective market price data, and does not require asset divestiture to quantify a utility=s stranded costs.

On the negative side, market price indices are generally based on spot energy prices. Therefore, they do not appropriately reflect the market price of the various types and qualities of power that are likely to be sold in competitive retail markets. Because spot energy prices are typically lower than the prices of other competitive power contracts, the exclusive use of spot energy to measure market prices is likely to increase the magnitude of stranded costs.

As is the case with the solicitation approach, critical assumptions regarding the capacity factors and cost characteristics of the utility=s power plants must be made to translate the indexed power prices into competitive asset values. If these assumptions are inappropriate, they are likely to result in inflated stranded cost estimates.

8. Independent Determination of Market Price

[18] The Detroit Edison Company, Proposal For Annual True-Up Mechanism, Michigan Public Service Commission, Case No. U-11290, July 9, 1997, p. 6.

Restructuring legislation recently passed in the state of Illinois[19] includes a methodology for estimating market price as a part of the on-going compensation to the utility for stranded costs.[20] The Illinois legislation calls for the use of indexes to determine market price, but only if and when reliable and representative indexes are available. In the meantime, the legislation establishes the concept of a "Neutral Fact Finder" or NFF. The NFF would be selected by the Illinois Commerce Commission based on a set of criteria specified in the statute. A new NFF would be selected every year. The NFF would receive copies of all power contracts for sales of power into Illinois, and all contracts for sales from Illinois-based generation to out of state purchases. The NFF would prepare from this information a series of market prices based on factors such as time of use, degree of firmness, voltage level, contract length, and other parameters that influence price. This approach has the advantage of an independent determination of the market price of power, but the disadvantage of placing reliance upon a single individual.

9. Bottom-up Administrative Determination

[19]Illinois State Legislature, "Electric Service Transition and Customer Choice Law of 1996." (Passed by the Senate and House in October and November 1997 and signed into law by the Governor on December 16, 1997.)

[20]Under the Illinois legislation the stranded cost compensation is effectively equal to the embedded cost of generation that is collected in tariff or contract rates, minus the market value of power and energy, minus a mitigation factor which begins at 5 mills per kilowatthour and ramps up.

At least one jurisdiction has considered stranded cost quantification issues in the context of competing administrative calculations produced by various market simulation models. In Pennsylvania, the public utility commission was faced with determining PECO Energy's level of stranded costs in proceedings that just recently concluded.[21] The Pennsylvania Commission considered a myriad of issues concerning PECO's stranded cost quantification. Among the items at issue were the results of market simulations determining the market value of PECO's generating assets and contracts. PECO introduced no less than three market studies that indicated its expected asset valuation per the market ranged from $2.86 billion to $3.65 million. (By the end of the proceeding, PECO reduced its lowest estimated market valuation amount to $1.865 billion.) Most of the other parties' studies indicated market values for PECO's generating assets that were considerably higher. The Pennsylvania Commission indicated that PECO's multiple studies were contradictory and produced results that were materially different. Accordingly, they selected another party's valuation of $3.96 billion.

Also disputed was the appropriate cost of capital rate to use in the stranded cost calculations. PECO argued for its after-tax cost of capital, while the commission instead allowed PECO's current long-term debt rate. Finally, while the PECO settlement rejected by the Commission did not reflect any true-up or reconciliation of stranded cost collections, the Commission's Order called for an annual reconciliation.

[21] Application of PECO Energy Company for Approval of Its Restructuring Plan under Section 2806 of the Public Utility Code and Joint Petition for Partial Settlement (R-00973953) and Petition of Enron Energy Services Power, Inc. for Approval of an Electric Competition and Choice Plan and for Authority Pursuant to Section 2807(A)(C) of the Public Utility Code to Serve as the Provider of Last Resort in the Service Territory of PECO Energy Company (P-00971265), Opinion and Order of the Pennsylvania Public Utility Commission dated December 11, 1997.

10. Top-down Administrative Determination

In New Hampshire, the restructuring legislation passed there required the public utility commission to set Ainterim@ stranded cost charges. To that end, the commission took evidence on the expected future market price of electricity in the New England area from interested parties, including utilities, industrial customers, consumer advocates and its Staff. The estimates varied widely; from 2.5**4**/kWh to 4.58**4**/kWh for the 1998 market price. These prices reflected both energy and capacity components. The different market price estimates resulted from differing evaluations and weights given to the following factors: the timing and type of new capacity to be introduced to the New England area to meet incremental capacity needs, expected fuel escalation rates, and the relevant wholesale transaction prices to be incorporated into the analysis, among other factors. The New Hampshire Commission chose an expected market price of 4.14**4**/kWh in 1998, based on an energy cost estimated from average system marginal energy cost derived from hourly energy bids into the NEPOOL ISO. The capacity cost included in the 4.14**4** price reflect new combined cycle gas units and combustion turbines to meet incremental capacity needs.

The other notable top-down administrative method approved to date by a regulatory commission is the Alost revenues@ approach ordered by the Federal Energy Regulatory Commission (FERC) in Order 888. FERC=s desire is to assign stranded costs directly to the utility=s departing wholesale customer. (This approach is easier to take with wholesale customers, who are generally larger and whose service requests sometimes require discrete plant additions by the serving utility, than it is with the mass of retail customers of the utility.) The stranded costs are defined as the difference between the utility=s expected revenues from the departing customer and the market value of the capacity and energy freed up by that departure. The assumed revenue lost is calculated as the average sales to the customer for the three prior years before the departure. The market value of the freed up energy and capacity is determined by the utility, though the departing customer may replace that value by the market price it struck with the competing supplier, if it chooses to. The departing customer also has the right, under some circumstances, of marketing or brokering the released power resulting from its departure, if it believes the utility=s market value estimate is too low.

FERC=s method does not include true-ups or reconciliations, as it believes the certainty of determining a fixed stranded cost value outweighs the increased accuracy associated with true-ups.

The legislation recently passed in Illinois also provided for a Arevenue lost@ method of calculating allowable stranded cost recovery, but refrains from estimating the level of stranded costs; using instead a mandated mitigation of stranded costs.

D. True-ups

ATrue-ups@ (also known as Areconciliations@) are simply a one-time only or periodic revisiting of an initial stranded cost calculation. Based on later or more relevant information, true-ups allow stranded cost estimates to be corrected so that there is less chance of the utility over- or under-collecting, and conversely of the customer under- or over-paying. Stated in these terms, use of true-up would seem to be non objectionable, or even essential, to the stranded cost process. However, use of true-ups in actuality brings up a number of policy questions for decision-makers to consider.

The first thing to keep in mind is that true-ups are rarely used in current regulation in Missouri. When a Commission sets rates for a utility, the rates are based on a representative level of revenues, expenses and rate base for that utility. If these levels are not representative of the actual revenues, expenses and rate base in the period new rates are in effect, then the rate levels will be Aincorrect@ and the utility will either overearn or underearn. The utility shareholders are fully responsible for the over- or underearning, and either enjoy the incremental income or suffer a deficit until new rates levels can be set in response to the changed revenue, expense, and rate base levels. There is no true-up mechanism employed in normal regulation to make utilities whole for past underearnings, or to reimburse customers when utilities overearn.

The fact that utilities are at risk for earning a reasonable rate of return as set by commissions is what requires their authorized rate of return to be considerably above the return associated with risk-free treasury bonds, for example. Also, the fact that utilities are Aat risk@ for revenue reductions, expense increases, or increases to rate base is the biggest incentive utilities currently have to maintain or increase their productivity and efficiency over time. Therefore, use of true-ups to reconcile stranded cost recovery by utilities would be a significant departure from normal ratemaking practices.

Further, it should also be recognized that true-up procedures can be used for vastly different purposes. For instance, true-ups can either be a Amid-course correction@ or be used as a Amake whole@ provision. Using true-ups as a mid-course correction means recalculating the stranded cost value for a utility, and allowing that utility to increase or decrease its charge prospectively to reflect the new result. But, the utility would not be allowed to recoup past undercollections or give back past overcollections based on the new, corrected stranded cost amount. In contrast, use of true-ups as make whole provisions means not only using the new calculation of stranded costs as the appropriate value for ongoing purposes, but also adjusting the rate to reflect past over- and under-collection of stranded costs. The policy implications of using true-ups in these differing manners is quite significant.

True-ups are more commonly associated with administrative stranded cost quantification methods than with those that are more market-based. This is because direct market valuation approaches (sale, spin-off) reflect an outside entities= perception of the market value of an asset or group of assets, and the outside entity (the purchaser) assumes the risk that their market value estimates will later be found to be incorrect. In contrast, when administrative methods are used, either the utility or its customers, or both, will bear the risk of inaccurate stranded cost estimations. All of the Acombination@ valuation methods discussed earlier can be subject to true-up if desired. However, particularly for the independent appraisal method, if one accepts their results as a reasonable proxy for market values for the assets in question, there is probably no compelling reason to do a later reconciliation of stranded cost amounts.

Following is a series of arguments for and against use of true-ups for purposes of reconciling stranded cost collections.

1. <u>Arguments for True-ups</u>

The most compelling argument for truing-up stranded cost calculations is the risk of initial inaccuracies in such calculations. As previously discussed, stranded costs as determined by administrative methods are dependent upon assumptions about a wide range of factors. In particular, the market cost of power is one variable where it is doubtful that there will be upfront agreement by all parties. In situations where public utility commissions have considered administrative calculations of stranded costs from a variety of sources, the result has been a wide range of estimates, generally with pro-stranded cost recovery parties estimating more stranded costs, and anti-stranded cost recovery parties finding less stranded costs. In this context, it seems reasonable to minimize the risk that the Commission or other stranded cost decision-maker will order a stranded cost charge based upon materially incorrect and inaccurate assumptions. The rule of thumb should be: the less confidence one has in the results of the initial stranded cost calculation, the more essential that a true-up mechanism be implemented.

Also, it could be argued that a true-up mechanism designed to ensure a certain level of stranded cost recovery by a utility would minimize the risk of the utility in that respect, perhaps allowing a lower cost of capital to be associated with stranded cost amounts. In other words, the more certain the recovery of a set amount of stranded costs, the less risk is placed on the utility, and the required return can be accordingly reduced.

Notwithstanding the above argument, advocates of true-ups note that these mechanisms can be designed not to guarantee the utility a set amount of stranded cost recovery or a specific return on stranded assets, but rather only to correct major discrepancies between stranded cost estimates and actual amounts incurred.

2. Arguments Against True-ups

Those opposing the use of true-ups in stranded cost proceedings emphasize the following four arguments: (1) there should be no guarantee of stranded cost recovery, (2) lack of incentives to minimize stranded costs, (3) the importance of certainty in the electric market place, and (4) potential anti-competitive impacts.

As has been discussed, utilities under normal ratemaking are not guaranteed profits sufficient to allow a reasonable rate of return to be earned; they are instead given the opportunity to earn a reasonable rate of return. It has been commonly held that, if recovery is to be provided for stranded costs, the utilities should be given only an opportunity to recover these costs, not a guarantee of recovery. True-ups designed to make utilities whole over time for specific stranded cost estimates can be thought of as Aguaranteeing@ a certain level of recovery. This leads to the anomalous situation where a utility would be given more certainty in recovering the costs of above market assets than of its other assets.

If given guaranteed recovery of specific stranded cost amounts through use of true-ups, a utility is not likely to seriously attempt to reduce or mitigate its stranded costs. Only if a utility faces a certain amount of risk in ultimately recovering stranded costs will it have an incentive to reduce that risk by mitigating its stranded costs.

It has been argued that the financial community and potential electric competitors may value the certainty of knowing what the future stranded cost charges will be, compared to the perceived benefits of potential reduction (or the risk of future increases) in those charges due to use of true-ups.

Finally, there is a perceived danger that, under some circumstances, use of true-ups could allow anti-competitive behavior on the part of incumbent utilities. Specifically, these companies could conceivably reduce their rates to the level necessary to forestall competition within their service territories, and make up the difference between their former rate levels and the new Acompetitive@ level through the vehicle of true-up calculation of stranded cost charges. Whether, and if so to what extent, this is a real threat or not depends upon how the true-up mechanism is structured.

3. Conclusions About True-ups

It is a significant benefit to the entire restructuring process if any stranded cost quantification can be done once and not have to be revisited, thereby eliminating the need for true-ups. However, it would be premature at this time to reject use of any specific methods to quantify stranded costs. Since we view use of true-ups as desirable for correcting possible inaccuracies and miscalculations if administrative or combination methods are used, the following are our recommendations on the use of true-ups to update stranded cost calculations.

While using true-ups only in the Amid-course@ correction sense would eliminate most of the concerns regarding reconciliations expressed earlier, there is at least one variable that enters into stranded cost calculations that is so inherently unpredictable that use of true-ups as make-whole provisions must be strongly considered. Specifically, the market price of power is a value likely to be volatile and very difficult to predict to the degree that leaving past stranded cost recovery uncorrected for this item may lead to gross inequities in stranded cost collections compared to actual stranded costs.

Therefore, we recommend that use of periodic true-ups to correct substantial inaccuracies in administratively determined stranded cost amounts be strongly considered, with such true-ups to reflect, at a minimum, retroactive correction of market price estimates. There may be other variables for which retroactive correction would also be appropriate. However, reflection of past over- and under collections associated with any corrected variables should be factored into the new trued-up stranded cost rate for prospective collection from or reimbursement to customers only; there should be no refunds of past stranded cost overcollections by the utility or special assessments to customers to recoup past undercollections.

E. Estimates of Stranded Costs for Missouri Utilities

As is clear from the foregoing discussion, a wide variety of techniques can be employed to estimate potential stranded costs. And, in applying any particular methodology, a wide range of assumptions could be employed with respect to each individual parameter.

To illustrate the uncertainty in the estimation of stranded costs for utilities serving customers in Missouri, we have gathered information from recent estimates made by independent parties.[22] (It should be understood that these estimates are made as of a certain date and that an estimate made at a different date may produce a different result.)

The following table shows a wide range of estimates.

Recent Estimates of Stranded Costs
($ Millions)

Line	Source	Publication Date	Empire District Electric Co.	Kansas City Power & Light Co.	St. Joseph Light & Power Co.	Union Electric Company	UtiliCorp United
1	Moody's Investors Service*	12/96	zero or negative	303	N/A	zero or negative	481
2	Resource Data International (RDI)*	4/97	(234)	520	(53)	1,121	(259)
	Kansas Retail Wheeling Task Force						
3	< McFadden/RDI**	4/97	3	534****	N/A	N/A	84
4	< NRRI***	9/97	N/A	(14) to 155	N/A	N/A	N/A

* Total all states
** Kansas operations only
*** Kansas operations and generation units only

Note:
A positive number means that the book value of generation assets is larger than the market

[22] In this context, independent means that the estimate was made by an entity other than the utility for whom stranded cost was being estimated.

Recent Estimates of Stranded Costs ($ Millions)							
Line	Source	Publication Date	Empire District Electric Co.	Kansas City Power & Light Co.	St. Joseph Light & Power Co.	Union Electric Company	UtiliCorp United
**** Total company amount is approximately $1.2 billion N/A = Not Available				value.			

The estimates taken from Moody's and RDI (Lines 1 and 2) are comparable in the sense that they both address the totality of the operations of each utility. That is, they consider operations in all states for multi-state utilities.

As an example of the variation in estimates, Moody's estimates that Union Electric Company (now AmerenUE) would have no (or negative) stranded costs, while the RDI estimate is stranded costs of approximately $1.1 billion. Interestingly, the estimates for UtiliCorp are in the opposite direction. Moody's estimates stranded costs of $481 million, while RDI estimates stranded costs at negative $259 million.

Lines 3 and 4 present available information from the Kansas Retail Wheeling Task Force. The McFadden/RDI study is shown on Line 3, and the NRRI evaluation is shown on Line 4. The data here are not comparable to the data shown on Lines 1 and 2 because the Retail Wheeling Task Force focused only on Kansas operations. Further, the NRRI evaluation looked only at generating plants located in the state of Kansas. With respect to Kansas City Power & Light Company, it did observe that including all KCP&L generating facilities would make the estimated stranded costs essentially zero. It is also interesting to note that the McFadden/RDI estimate for KCP&L's Kansas operations is approximately the same as the separately reported RDI estimate for stranded costs of KCP&L's operations in both Missouri and Kansas.

This review emphasizes the extreme sensitivity of stranded cost calculations to the selected methodology, the time frame analyzed and the specific assumptions with respect to the key parameters.

F. Overall Conclusion

To reiterate, it is our belief that avoidance of true-ups would be beneficial to any electric restructuring process. However, we also recognize that use of pure market methods will not be feasible in every foreseeable circumstance. Each market method has its unique risks and advantages. Because the best market mechanisms require structural separation and asset divestiture, these methods are not always easily applied. While divestiture is also a consideration for resolving market power concerns, we do not believe asset divestiture is justified solely on stranded cost quantification considerations. There are also methods of quantifying stranded costs that do not require divestiture, but do use market determined price data, though these mechanisms have various drawbacks and entail certain risks. In our report, we have referred to these as Acombination@ methods.

We recommend that the Legislature and/or Commission, for purposes of determining stranded cost amounts, operate under a policy that methods of quantifying stranded costs should utilize available market information to the extent possible. ACombination@ methods should be seriously considered. If administrative methods are to be used, market information should be used to support the results of the analysis as much as possible. However, strong consideration should be given to subjecting any stranded cost amounts set through administrative means to periodic true-ups or reconciliations in a manner that does not impair the utility=s incentive to mitigate stranded costs amounts or adversely affect the development of a competitive market for the supply of generation at the retail level.

CHAPTER IV

Timing of Recovery

This chapter addresses the issue of the time frame during which allowable stranded costs (if any) would be recovered from retail electric consumers in conjunction with a program for retail access. For purposes of illustration only, it is assumed that some amount of stranded cost exists and is to be collected from retail consumers. The illustration is neutral with respect to the proportion of identified stranded cost to be recovered from consumers (i.e., the illustrative examples do not depend upon the percentage of recovery).

A second scenario is presented to address the circumstance where stranded cost is negative.

A. Positive Stranded Costs

Figure IV-1 shows the typical revenue requirement trajectory for generating resources. The pattern is a reduction over time as generating assets depreciate. (The particular slope of the line also depends upon other factors, including the rate of change in O&M expenses.) The specific slope of the line is not critical to the illustration. The general point is that over time the revenue requirement associated with a particular generating facility is expected to decrease. At the same time, the market price of power (i.e., the revenue that could be produced by competitively selling output from the generator) is expected to increase.[23]

[23] For purposes of illustrating how stranded cost recovery works, it is necessary to focus on the existing array of generating units. It is recognized that over time a utility will experience growth and will undoubtedly add new facilities. Stranded cost does not address the cost of new facilities, however. It addresses the relationship between the traditional revenue requirement for existing

Two different examples for timing of recovery are addressed. The first involves a two-step recovery process and the second illustration involves a three-step recovery process.

Figure IV-2 assumes that the recovery process starts with a rate freeze for a certain number of years. The rate freeze is designed to allow the utility to charge rates in excess of its then current revenue requirement in order to collect or pay down a portion of the allowable estimated stranded costs. By charging rates in excess of the then current revenue requirement for the existing generating facilities, the utility receives funds that otherwise would not have been collected (because rates presumably could have been reduced) and applies them to reduce existing generating asset balances.

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facilities and their value in the market. If these new facilities were included, the slope of the revenue requirement line for the combination of existing plus new facilities would be much more gradual than in the illustration.

When open access is granted, the rates would decrease and a level of Stranded Cost Charge (SCC) recovery would be set in place. The level of the charge, and its duration, would have to be determined as a function of the estimated remaining amount of stranded cost, the minimum reduction in rates that the Commission wanted consumers to enjoy, and the particular sharing (if any) of stranded cost recovery between consumers and stockholders. An initial estimate of stranded costs would have to be made prior to the date of implementing the selected recovery process. This amount could be fixed, or there could be mechanisms in place for adjusting the frozen rate and/or the SCC if new and better information became available.[24]

Figure IV-3 shows, after the open access date, the combination of the SCC charge paid to the utility and the market price of power paid by the customer to its chosen supplier.

Figure IV-4 shows a second example with a three-step process for stranded cost recovery. The first stage is the same as in the first example, but the rate freeze is in place for a shorter period of time. Again, an estimate must be made up-front of the expected level of stranded costs; however subsequent market tests and adjustments can be made as with the prior illustration. The second step is a reduced rate reflecting a lower level of recovery for an interim period. The final step is a lower value of SCC, as compared to the second step, which allows for recovery of the balance of the allowable stranded costs. Under this example, the final level of SCC is probably higher than in the second step of the first example, and probably extends for a longer period of time; all other things equal.

Figure IV-5 shows the combination of the SCC charges and the market price for power paid by the customer during the period that this SCC is being applied.

[24] See the discussion in Chapter III with respect to various methods for estimating stranded costs.

It should be noted that in the first recovery example there is more time to prepare for open access, and the utility collects a larger proportion of the allowed amount in the early years. However, consumers do not have the opportunity to purchase competitively as early, and they pay higher rates at the beginning of the period. The second example extends the period over which stranded cost recovery occurs, but provides consumers the opportunity to achieve savings earlier in the process.

B. Negative Stranded Costs

For purposes of illustrating negative stranded costs, the market price line is the same as in the illustration of positive stranded costs, but the revenue requirement line in this scenario begins at a lower value to recognize a lower embedded cost for the utility whose existing revenue requirement is closer to the market price of power (see Figure IV-6). Figure IV-7 shows the SCC, which is a negative value to reflect credits to consumers for the amortization of negative stranded costs. Figure IV-8 shows the combination of the negative SCC and the market price of power which the customer would be paying.

CHAPTER V

Mitigation of Potential Stranded Costs

A. Introduction

"Mitigation@ of stranded costs essentially means a reduction in the amount of potential stranded costs. The term implies active efforts by utilities to minimize the amount of potential stranded costs they may face once retail competition is introduced. The perceived need for mitigation is based on these assumptions: (1) that since stranded cost recovery will have some detrimental impact upon the workings of a free and unfettered competitive market for electricity, it is best to minimize the impacts of stranded costs on the new electricity market; and (2) minimizing or eliminating stranded costs will result in potentially lower bills sooner for customers. Mitigation of stranded costs can occur prior to the start of retail access, or during the remaining lives of the generating assets giving rise to stranded costs after retail competition is initiated, or both.

Mitigation is a broad term, and is not necessarily used in the same sense in all stranded cost contexts. In particular, mitigation can be defined differently from the customers= perspective and the utility's perspective. Mitigation from the customers= perspective means that the utility (and its regulators) takes all possible steps to reduce its need for potential stranded cost recovery, so that customers are the last possible source of recovery of these costs. Mitigation from the utility's perspective means that its stranded cost total is minimized at the time competition is introduced. Since one way of mitigating stranded costs under this definition is collecting additional amounts from customers in rates to recover potentially stranded costs prior to the initiation of competition, this definition does not necessarily imply that customer payments for stranded costs are minimized. We will discuss both types of mitigation in this report.

If stranded costs are thought of as primarily consisting of past, sunk capital costs incurred by utilities that will not be recoverable in a competitive electric market, it should be noted that direct mitigation of such costs is not generally possible. It is generally not possible to Areduce@ an expenditure that has already been made. Therefore, the term mitigation usually signifies a cost reduction or revenue enhancement that can be offset against stranded cost amounts, not necessarily a direct reduction in sunk capital costs. It should also be noted that use of successful mitigation efforts to reduce rates will not mitigate stranded costs. Without expressing any opinion on whether the electric restructuring process should include provisions for rate reductions for some or all customers, it is true that revenue enhancements and expense reductions will have no impact on stranded cost amounts unless the utility is allowed to retain the savings for at least a period of time.

The perceived importance of stranded cost mitigation policy can be measured by the fact that most regulatory agencies that have to date made decisions regarding stranded cost recovery have specified that only recovery of stranded costs net of mitigation will be allowed. Affirmative actions by utilities to reduce their potential stranded cost exposure are expected before responsibility for stranded cost recovery is passed on to ratepayers. For example, the Connecticut Commission noted that utilities' obligation to mitigate stranded costs is similar to the obligation to mitigate damages. For example, utilities must make reasonable efforts to reduce stranded cost losses; could not passively allow the losses to accumulate; and could not incur further expenditures when they could be avoided.[25]

The remainder of this section will describe the various mitigation techniques and strategies that may be available to utilities and regulators to reduce future stranded cost exposure. By discussing these techniques, it is not our intention to endorse or encourage use of any particular technique or strategy. We will also set forth the Working Group=s overall conclusions on this issue at this time.

B. <u>Types of Mitigation</u>

Mitigation techniques can generally be separated into the following categories: (1) cost reductions; (2) revenue enhancements, (3) cost shifting, and (4) indirect mitigation. Each of these categories will be described in turn.

1. Cost Reductions

This category reflects measures utilities can take to bring the embedded cost of generation (including operating costs) and purchased power contract prices closer to the market price of power.

These measures might include:

a) Generation expense savings from plant heat rate reductions, generation operations and maintenance expense reductions, and savings from the retirement of uneconomical generating units;

b) Generation-related savings in reduced overhead expense, such as decreases in general plant and A&G expenses;

c) Refinancing of debt and/or buyback of equity (this item does not encompass Asecuritization@ of stranded costs, which is discussed separately in this report);

[25] CPUC Order in Docket No. 94-12, Page 101. The Commission findings on restructuring did not go into effect as enabling legislation was not passed.

d) Divestiture of generating assets. While divestiture will not always result in a higher market value determination than an administrative approach, divestiture can be thought of as a mitigation technique to the extent there are willing buyers who expect to be able to operate the asset and/or to market power more effectively than the current owner. Under administrative approaches, it may be difficult to identify this extra value;

e) Renegotiation or buy-out of above market purchased power contracts; and

f) Minimization of new capital investments.

2. Revenue Enhancement

This mitigation category involves efforts by utilities to increase their revenue levels, generally by taking advantage of new opportunities presented by a deregulated, competitive electric industry. These efforts might include:

a) Marketing of excess capacity or energy. Even power that is uneconomic in a competitive market will have some value on the market. It would be appropriate for utilities that have freed-up capacity due to the loss of customers to competitive forces to still market the freed-up power and maximize their return on it;

b) Auctioning of excess capacity or energy;

c) Marketing strategies to improve system load factors;

d) Sale of ancillary services;

e) Sale of excess emission allowances;

f) Business opportunities associated with nongeneration assets and resources with a market value greater than book value.

This category also includes potential competitive leveraging of transmission and distribution assets (e.g., T&D rights-of-way, dark fiber, customer billing system hardware and software, power marketing assets, and metering systems with the capacity to offer competitive services). It may also include the intangible assets and resources that can enhance both power marketing and retail merchant function profitability, such as in-house expertise in all aspects of the electric business, customer loyalty and brand name recognition, and customer billing and credit information. To the extent this category reflects revenues and expenses associated with nonregulated activities, some parties would be strongly opposed to inclusion of this item as an acceptable mitigation approach. Also, if this type of mitigation is judged to be appropriate, it could be argued that Alost enterprise value@ to utilities as a result of restructuring (which might include such impacts as foregone economies resulting from disaggregation) should be reflected as an offset to this item as well.

3. Cost Shifting

This category does not necessarily represent true mitigation strategies, as it does not result in revenue increases or expense decreases. Rather, these measures result in a shifting of cost responsibility between utility customers and shareholders, or between classes of ratepayers, or an acceleration of cost recovery from customers, all designed to reduce overall stranded cost totals. Depending on a utility=s earnings level at the time, use of the these options will have different impacts on whether, and if so how much, costs are actually shifted to customers or shareholders by these strategies. Among the ideas frequently discussed within this category are:

a) Acceleration of depreciation of generation assets to increase recovery of fixed costs while the retail franchise is still intact;

b) Voluntary write-offs of above market generating plant costs; and

c) Changes in the timing, pace and extent of restructuring.

These factors can influence the relative amount of stranded costs. For example, delaying retail access by several years should have the impact of reducing a utility=s stranded costs, as the book value of its assets will decrease over time. However, this potential reduction in stranded costs is a consequence of denying customers the receipt of potential benefits from competition for the period of the delay.

4. Indirect Mitigation

Indirect mitigation techniques refer to regulatory structures or practices that, while not contributing directly to an increase in revenues or a decrease in expense for the utility, may intentionally or as a side effect support an environment that encourages and provides incentives to utilities to mitigate their potential stranded costs. These practices might include:

a) Rate freezes. An inability to raise rates may put significant pressure on a utility to mitigate stranded costs, particularly if there is a limited time period prescribed for the recovery of stranded costs. (However, mitigation concerns are generally not the primary expressed reason for adoption of rate caps or rate freezes);

b) Mandatory rate reductions for some customer classes. This approach, adopted in some jurisdictions to ensure that residential and small commercial customers receive lower bills sooner, will as a side effect put pressure on utilities to mitigate stranded costs;

c) Incentive regulation. Also known as alternative regulation or performance-based regulation, this approach generally allows utilities to retain a portion of overearnings as an incentive for greater efficiency (while giving a portion of the overearnings back to customers in the form of rate reductions or rate credits), as opposed to reducing rates in total to what otherwise would be considered a reasonable return on equity. This concept can be applied to stranded cost recovery by using all or part of the utility=s share of over-earnings to write down potential or actual stranded costs. By making some portion of a utility=s stranded cost recoverable through an incentive regulation plan, the company would have a powerful incentive to maximize its earnings so as to earn the returns necessary to write down its stranded costs.

d) Shared savings. Some jurisdictions (Rhode Island, for one) have allowed utilities to retain a portion of any savings associated with a renegotiation or buy-out of uneconomic long-term contracts, as an incentive for the utilities to mitigate stranded costs in that manner. In the same fashion, New York has also provided utilities an opportunity to retain a portion of the proceeds associated with auctions of generating assets, instead of devoting all the gain to offsetting stranded costs.

C. Conclusions

We believe that effective efforts to mitigate stranded costs are essential to providing ratepayers an opportunity to experience a reasonable level of benefits from the introduction of competition. Any allowance for stranded cost recovery should be balanced by a requirement that utilities receiving such recovery mitigate their stranded costs to the maximum extent possible. To that end, we offer the following recommendations.

First, in any proceedings in which stranded cost recovery claims are made by utilities, those parties requesting stranded cost recovery should, along with their stranded cost estimates, present estimates of the expected mitigation of those costs as well. The Commission should have authority to consider whether such mitigation efforts are reasonable and sufficient in determining the amount of stranded cost recovery to authorize. One possible approach would be to allow the Commission to take into account the reasonableness of a utility=s mitigation efforts in determining what return, if any, should be allowed on stranded investment. Absent exceptional circumstances, a utility should not receive stranded cost recovery based solely on estimates of stranded costs derived from current financial data, with no evidence as to potential and actual mitigation efforts.

Second, the use of incentives to encourage active mitigation efforts by utilities should be considered. Although there is no present indication that long-term purchased power contracts will be a major source of potential stranded costs in Missouri, the idea of allowing utilities to retain a small portion of the renegotiation/buy-out savings associated with above market contracts is attractive in concept. If divestiture is thought to be an attractive approach to mitigation of stranded costs (or for other purposes), then incentives for divestiture similar to those offered in New York might be considered. More generally, the concept of using incentive plans or performance-based plans as a tool in allowing stranded cost recovery should be explored. In practice, this would mean the utilities would be at risk from recovering a portion of their stranded costs through the utility=s share of earnings above authorized levels. This would put the burden of recovery of that portion of stranded costs on the utility=s shoulders, requiring it to achieve earnings levels sufficient to allow the opportunity for full stranded cost recovery.

Third, we do not believe it should be the role of the legislature or regulators to be overly prescriptive in detailing how utilities should mitigate stranded costs. A better approach would be to establish overall ground rules for restructuring that provide adequate incentives for mitigation by utilities. Such approaches would allow the utilities to determine for themselves what would be the best approaches to mitigating stranded costs, and thus appropriately leave the financial and operating decisions necessary to adequately mitigate stranded costs to utility management.

Finally, the question may arise as to what extent utilities should be able to take steps to mitigate stranded costs prior to the introduction of competition, particularly when those steps may have immediate rate impacts on customers. As a general rule, we do not believe rates should be increased to allow for Amitigation@ of stranded costs, since customers as of yet do not have any way of benefitting from the introduction of competition, and should not be expected to pay for competition in advance. With that caveat, however, we do believe the Commission should have the authority to consider, in advance of competition, mitigation strategies for utilities that do not require rate increases. Along this line, we recommend that utilities be given greater freedom to accelerate recovery on their books of generating assets than current regulatory rules allow, if such increases do not have any rate impact. However, this policy interest should continue to be balanced by the ongoing objective that ratepayers receiving monopoly service pay rates that do not exceed a Ajust and reasonable@ level. Also, this general recommendation should not be interpreted as advocating any action that would violate the spirit of existing agreements concerning incentive/sharing plans that are already in place, unless all of the parties to the agreement concur with any proposed revisions.

CHAPTER VI

Role of Securitization

A. Introduction

Securitization is a financing technique that can be applied to stranded cost collections, which has the potential to mitigate the amount of stranded cost recovery to some degree. Statutes allowing use of securitization in electric restructuring efforts have been passed in California, Illinois, Massachusetts, Pennsylvania, Rhode Island, and other states. However, not all jurisdictions have accepted the use of securitization, and it remains controversial for several reasons that will be explored further in this chapter.

As a potential mitigation technique, the issues raised by securitization are unique enough that the Working Group believes this subject deserves extended discussion in the Report beyond that given to other mitigation strategies in Chapter V.

B. How Securitization Works

Under a securitization procedure, the state legislature or state regulatory commission irrevocably orders that consumers pay a separate charge as part of their overall electric bills to allow a utility to recover an identified portion of its stranded costs. The utility billing the stranded cost amounts pledges to pay to a trust (or other special purpose entity) the stranded cost amounts expected to be received from customers. The trust then sells bonds to security investors, promising to use the stranded cost proceeds received from the utility to repay the bonds and pay interest on them. In turn, the trust provides the bond proceeds to the utility, giving it upfront recovery of the portion of stranded costs that were securitized. From that point, the utility continues to collect the stranded cost amounts from current customers (and former customers choosing new suppliers) in its previous service territory. The utility then turns the proceeds over to the trust, which uses the proceeds to repay principal and interest on the bonds.

In most states, legislation is required to allow securitization of stranded cost transactions to go forward. This is because legislative action is normally required to define the future stream of stranded cost recovery revenues as an intangible property right that can be sold by the utility. Also, the benefits of securitization are heavily dependent upon favorable tax treatment of the transaction from the utility's perspective. Specifically, the utility will want to avoid incurring a tax liability associated with the upfront lump sum payment from the trust, and to defer recognition of revenue from the stranded cost payment stream until it actually receives payments from customers. So far, IRS rulings have been supportive of utility use of securitization in these respects.

Finally, securitization is not unique to the electric industry. Securitization transactions are carried out routinely for such items as credit card payments and mortgage payments. Nor is there any conceptual reason why utilities could not use securitization in other aspects of their business besides stranded costs, including transmission and distribution operations, assuming supporting state legislation and tax treatment that would allow funds to be raised in this manner at a lower cost of capital.

C. Securitization Proponents View of Benefits

The major perceived benefits of securitization claimed by advocates of this procedure are as follows:

1. The utility is able to lower its cost of capital. This is because the securitization bonds will pay a lower interest rate commensurate with

a high grade instrument, as opposed to the higher cost associated with the utility's existing cost of capital.

2. Customers benefit to the extent that the utility's lower cost is shared with customers through lower rates and/or a reduction in stranded costs.

3. Those interested in holding bonds benefit in that the securitization bonds represent a high grade investment opportunity.

D. Securitization Critics View of Detriments

The major criticisms of securitization that are commonly heard are:

1. Securitization results in an inappropriate shifting of risk, and

2. Securitization encourages the potential for anticompetitive conduct.

Opponents of securitization assert that the reduction in the required return on stranded assets resulting from securitization flows from the fact that securitization lowers risks for bondholders by shifting repayment risk to utility customers. The lower the risk to investors, the lower the cost of capital demanded. Keeping in mind the earlier discussion of stranded cost estimation techniques, it is clear that these estimates may be subject to considerable forecasting error. But if securitization is premised upon an irrevocable right of the utility to recover a certain amount of stranded costs in rates, which in turn will be passed along to the securitization trust, then any forecast error in the original stranded cost estimates by definition cannot be corrected. The risk that stranded cost estimates may be incorrect will be shifted from the utility to its customers by use of securitization.

This point is illustrated by the nature of the true-up mechanism that is usually part of the securitization procedure. A securitization true-up is wholly different in concept from the types of true-ups previously discussed in Chapter III. A securitization true-up will not correct for errors made in forecasting the market price of power and other variables, for example; it is only intended to make sure that actual stranded cost collections from customers equal the amount of stranded cost recovery the securitization bonds are based on. Given that inaccurate forecasts of stranded costs will not be corrected under securitization, use of this technique does not guarantee that customers will not overpay stranded costs relative to the amount actually incurred by the utilities. The inability to perform true-ups for securitized stranded costs in the manner suggested in Chapter III is a less serious concern if stranded costs are quantified using market methods rather than administrative methods. It is partly due to true-up concerns that some jurisdictions that have allowed securitization restrict its use to some percentage of total estimated stranded costs.

There is also a concern that securitization will foster or encourage an anti-competitive environment in the developing electric market. As previously explained, securitization may allow utilities complete recovery of stranded costs upfront. The utilities will have some of their generating assets completely paid off at the onset of competition, plus enhanced cash flow from the securitization proceeds. This would leave the utilities in a better position than they would be if they had remained under traditional regulation, and will also leave them in a better position than potential unregulated competitors in the generation market. Fears have been expressed that utilities with paid-off assets and a Awar chest@ of cash will be able to price generation aggressively to drive potential competitors out of the business, and/or use their securitization cash to acquire potential competitors and forestall competition.

The remedy most often suggested by those concerned about securitization=s impact on the competitive market is to require utilities to utilize securitization proceeds to write down the capitalization on their books related to the stranded assets. Some jurisdictions have adopted this proposal. Other critics assert, however, that this is not a genuine solution since the utility's total debt capacity remains unchanged and the retirement of generation-related debt will make room for the issuance of new debt that can be used for competitive ventures. Some commenters also suggest that availability of securitization should be restricted to utilities that divest generating units, so the proceeds are not allowed to distort the generating market in any manner.

E. <u>Securitization Proponents Response to Criticisms</u>

Proponents of securitization claim that the risk shifting argument opposing securitization is really based solely on a concern that the amount of stranded cost recovery that the securitization bonds are based on might exceed the actual stranded cost incurred. This risk can be effectively eliminated by limiting the amount of stranded cost recovery that can be securitized. However, as mentioned, the value of securitization to both the utility and the customer is that it provides up front cash at a lower cost of capital. Thus, any limitations on the amount of stranded cost recovery that can be securitized limit the extent to which utilities and customers can enjoy the benefits of securitization.

The "anticompetitive" concern is based upon what proponents believe to be a fundamental misunderstanding or misrepresentation of the facts. Securitization does not leave utilities with paid-off assets and a "war chest" of cash. First, stranded cost is by definition what the utility cannot recover in a competitive market. The assets are not "paid-off," only the nonrecoverable portion of assets are stranded costs. The point of stranded cost recovery is to put utilities on the same footing as competitors so that future competition is based on going forward costs, not costs that utilities incurred under the regulatory regime. Securitization is a tool that can be used in stranded cost recovery. The concern over "paid-off" assets is an attempt to reintroduce objections to stranded cost quantification and the amount of recovery. Second, securitization does not create a "war chest" of cash. What it does is allow the utility to borrow against the proceeds of the amount of stranded cost recovery that is allowed to be securitized at a lower cost of debt than the utility's existing debt. A utility can always seek to borrow funds to obtain up front cash, but the cost of raising that cash will be higher absent securitization. Here again, the point of using securitization is to put utilities on the same footing as unregulated competitors.

The write-down or divestiture remedies reflect the concerns of those with objections to the quantification of stranded costs and the amount of stranded cost recovery that should be allowed, rather than concerns with securitization as a tool for use in stranded cost recovery.

F. Conclusions

The concept of securitizing stranded costs is far from a cure-all in addressing stranded cost recovery issues. We accordingly recommend that policy makers approach the concept of securitization carefully. Under certain circumstances, securitization may be helpful in mitigating stranded costs. Accordingly, options for its possible use should be preserved, keeping in mind the previously expressed concerns.

CHAPTER VII

Pros and Cons of Stranded Cost Recovery

A. Introduction

This chapter of the report provides some of the more prominent arguments noted in the literature discussing stranded costs, from both sides of the controversy: those arguing for full stranded cost recovery and those advocating no, or limited, recovery. The presentation of these points herein is intended to be neutral and unbiased toward either position.

B. Reasons for Allowing Stranded Cost Recovery

Certainly the most common rationale offered for stranded cost recovery is the need to adhere to the Aregulatory compact.@ The Aregulatory compact@ refers to an unwritten set of alleged mutual obligations between utilities and government authorities/regulators that have governed the operations of the electric utility industry in this country through most of this century. While regulatory compact arguments, pro and con, often have legal implications that may to some degree overlap with the arguments discussed herein, it is not our intent to address legal points in this document. Any legal issues concerning the stranded cost recovery that need to be brought to the Task Force=s attention will, we assume, be addressed by the Task Force=s Legal Committee.

The regulatory compact is most often characterized as granting a utility an exclusive franchise to serve customers in a particular service territory, in return for obligating that utility to serve all customers who desire, and pay for, service within that area. Further, the government/regulators promise to provide the utility an opportunity to earn a reasonable return on the investment necessary to provide its customers with safe and adequate service. While the utility will be constrained from earning excessive rates of return on its investment, it also should not take a loss or earn an inadequate return on capital it has invested in a prudent manner to serve its customers.

In relation to potential stranded costs, proponents of recovery assert there are in particular two key points to be made from the above discussion. First, that the obligation to provide service to customers, and to make the necessary investments to do so, was not discretionary to the utility but was required of it. The resource decisions made by utilities to fulfill the obligation to serve were not to be judged in hindsight under the current regulatory regime as to whether they were the most economical course of action to take, but rather would be assessed by regulators under a Aprudence@ standard, that is, did the utility make the right decisions based upon the facts and circumstances known to it at the time the decisions were made. Accordingly, the argument follows that it would be inequitable and unjust not to allow shareholders full recovery of investments that utilities were obligated to make to serve their customer base. Also, since all investments currently reflected in customer rates have presumably been determined to be prudently incurred by regulators, it would not be appropriate to retroactively disallow recovery of prudent investment by a change in the method of regulation.

The second point frequently made by parties relying on the regulatory compact theory to justify recovery of stranded costs is the fact that utilities have been restricted from earning high rates of return on their investment under the regulatory methods used currently and in the past. Any excess profits or large gains would not be allowed to be retained on an ongoing basis by the utility, but would be passed back to customers in the form of rate reductions. Symmetry would then require that any losses to utilities from the introduction of competitive forces in the electric industry should not be passed on to shareholders, under the rationale that if utilities historically have not been allowed to retain large gains, neither should they be required to incur large losses.

In its basic form, arguments for stranded cost recovery based on the regulatory compact amount to a claim that it is unfair for utilities and their shareholders to incur a loss associated with a change in the regulatory rules implemented in the middle of the game. Notwithstanding any legal claims that may be made, it is an equity argument: "we played by the rules set in the past, therefore it is unfair for us to now incur losses on investments made pursuant to the utility obligation to serve that were determined to be prudently made at the time."

Some jurisdictions that have approved stranded cost recovery in some form, but have nonetheless rejected legal claims mandating stranded cost recovery (Maine, Massachusetts), have recognized Aequity@ arguments made by utilities in regard to the regulatory compact, and have in part based their decision to allow recovery based on what they perceive to be the importance of government bodies Aliving up to their past commitments.@ They assert failure by the government to allow recovery of past prudent investments would undermine the faith of the financial community in future electric markets and regulatory structures, as investors would not be sure that the government would not again later change the rules and put their investments at risk.

Not all arguments for stranded cost recovery are directly based upon the regulatory compact concept. For example, failure to recover stranded costs is sometimes alleged to endanger the financial viability and integrity of (at least) some utilities. The resulting financial disruption could endanger the provision of safe and adequate service by the utilities. Loss of jobs would be one likely result. In extreme cases, utility bankruptcies may occur.

Also, the risk of asset stranding is argued to have never been incorporated into the authorized returns on equity granted to electric utilities by regulators. Therefore, the risk of a fundamental change in regulation is an uncompensated risk, necessitating stranded cost recovery. In the area of rate of return, it is also alleged that stranded cost disallowances will raise the utilities= cost of capital on a prospective basis, making it difficult for the utility to raise capital and provide service to customers at competitive rates.

Proponents of stranded cost recovery also argue that government in general and regulators in particular have mandated, approved or encouraged utilities to make some of the investments that may become stranded in the competitive environment. Power purchases from Aqualifying facilities@ at administratively set Aavoided cost@ rates in accordance with the PURPA Act of 1978 and demand-side planning initiatives are two examples of Amandated@ expenditures that are frequently mentioned as potential stranded costs. It is also alleged that the federal government for many years actively encouraged utilities to construct nuclear generating units as part of the overall energy policy in effect at the time. Stranded cost proponents also note that regulators generally had the power to approve or disapprove generating resource decisions made by utilities. Finally, the creation of Aregulatory assets@ by regulators (which are also subject to stranding) and the setting of purportedly inadequate depreciation rates for utilities are argued to have resulted from, in part, a desire by regulators to delay recovery of utility costs to later generations of customers, exacerbating potential stranding problems.

In response to the argument that stranded cost recovery may be anticompetitive, proponents of recovery have argued that, to the contrary, stranded cost recovery is necessary for true competition to evolve. The argument is that, under principles of efficient competition, utilities should compete on the basis of short-run marginal costs (i.e., the cost to provide the next unit of service.) The amount of Asunk@ cost a utility might have on its books is argued to be irrelevant to its ability to compete on a marginal cost basis. The concern is that a competitor that has higher marginal costs than the incumbent utility may still nonetheless be able to provide a cheaper rate to the customer because it did not have to incur the sunk costs that the incumbent has incurred. By allowing the utility to collect stranded costs through a charge regardless of whether it continues to serve a particular customer or not, the utility=s sunk cost disadvantage is eliminated, and it is free to compete on the basis of its marginal costs. In the absence of stranded cost recovery, to allow the firm with higher marginal costs to provide service to the customer is held to be against the principles of economic efficiency, and might lead to the premature retirement of low marginal cost facilities by incumbent utilities, and the building of relatively high marginal cost generating units by competitors.

Another argument for stranded cost recovery within the realm of economic theory is that any savings to customers from disallowance of stranded costs are not true Asavings@ in the economic sense, but are merely transfers of wealth from utility shareholders to utility customers and/or electric competitors. In other words, there is no true societal benefit resulting from failure to charge customers for utility stranded costs.

Finally, it is often argued that stranded cost recovery as a policy is a necessary condition for the electric utilities to cooperate in the transition to a new, competitive industry structure. Otherwise, the restructuring process could be tied up for years in the court system, with customers effectively denied the potential benefits of competition.

C. <u>Reasons for Not Allowing Full Stranded Cost Recovery</u>

The regulatory compact, or lack of one, also is a predominant theme in the positions advocating no or limited recovery of stranded costs. The contention is that the regulatory compact, as such, does not exist. It is argued that there was never a formal Acompact@ or contract agreed to, delineating the responsibilities and obligations of all the involved parties. The regulatory compact under that theory would be an after-the-fact construction conveniently put forth to support utility claims of injury from the onset of competition. Some have stated that this belief is supported by research that shows that there does not appear to be any use of the term Aregulatory compact@ prior to the early 1980s, when it was first alleged by utilities that the compact was breached in the context of the nuclear cases of that time period.

Even if the regulatory compact exists, and even if the common characterization of it is a fair description of the mutual obligations of the utility and its regulators, opponents of full stranded cost recovery question why the past existence of the compact should be held to now protect the utilities against the impact of competition. It is noted that the obligation to serve customers, in and of itself, would not lead to the incurrence of above-market costs. Above-market costs would be more associated with the specific resource decisions made by utility managers. Further, it is argued that utility customers were never part of any compact except to the extent they were Alocked@ into it, never had an affirmative obligation to buy from the utility, and therefore should have the right to Aopt out@ of the compact if more economic electric service alternatives become available to them.

Most of the response to stranded cost recovery arguments that relate to the regulatory compact revolves around the basic concept that the move to competition is premised all or in part on a belief that the present regulatory system has failed to provide electricity to customers at rates that reflect reasonable cost levels and efficiency. In that event, if a regulatory compact exists, it has not worked well from the perspective of the customer. The argument follows that the utility shareholder then should not be held harmless relative to the utility customer when competition is introduced and exposes the existence of above-market costs.

As with pro-stranded cost recovery arguments, there are many opposing viewpoints that do not relate directly to regulatory compact concerns. A primary counter argument is the belief that recovery will effectively eliminate all or most potential customer benefits that may arise from competition. There may be little savings available to the customer once full stranded cost recovery is charged to them.

Opponents of full stranded cost recovery, while conceding that some categories of stranded costs may have been imposed on utilities (such as QF purchases), disagree with the notion that utility managements should not be held accountable for most generating resource decisions that ultimately led to stranded costs. They assert that utilities obviously had some degree of responsibility for their relative cost levels, a responsibility which is inconsistent with 100% assignment of above-market costs to customers. They point out that utility management had primary responsibility for resource decisions, and their ability to make these decisions was generally not significantly compromised by regulators or legislators. In response to arguments that regulators approved these decisions, it is countered that some utilities canceled large construction projects (nuclear and otherwise) in the late 1970s and early 1980s, once again with the approval of regulators. Companies that made these decisions limited their stranded cost exposure compared to utilities that kept constructing units that contributed to overall industry excess capacity and high costs.

Stranded cost recovery is held by some to be anticompetitive because it essentially precludes other suppliers from securing the business of customers served by high cost utilities. This is because high stranded cost recovery makes the amount of money the customer can save by switching so small that even low cost competitors cannot afford to sell at a price below that level; and thus a competitive market will not develop.

In response to the argument that stranded cost recovery is necessary for true economically efficient electric competition (i.e., competition based on marginal costs), the counterargument is that such a belief is too much focused on Astatic efficiency,@ that is, an electric provider=s marginal cost at a point in time. That type of analysis ignores Adynamic efficiency@, which is defined as the change in marginal cost levels over time. Because stranded cost recovery is held both to remove significant incentives for utilities to lower their costs and become more efficient providers and remove incentives for competitors to enter the market, dynamic efficiency will likely be harmed by stranded cost recovery. The decrease in static efficiency that may occur as a result of no allowance for stranded cost recovery is alleged by some to be outweighed by the likely increase in dynamic efficiency if competition is introduced and little or no stranded cost recovery is granted.

Further, the disincentive for cost reduction alleged to be an inherent outcome of stranded cost recovery has several other bad effects, it is argued: utilities may devote more effort to Afinding@ additional stranded costs to submit for recovery rather on efforts to lower costs and be more competitive, and such recovery will be a disincentive for utilities to retire inefficient generating units.

Stranded cost recovery, rather than being a means to level the playing field among potential competitors, is argued to be a reward to those utilities that have been least efficient in the past compared to those that have done a better job of keeping their expenses and rates down. In this regard, it is also pointed out that recovery would be unfair to those companies that took actions on their own to write down asset values potentially subject to stranding.

As for the allegation that failure to approve full stranded cost recovery will increase cost of capital for the electric industry, a common response is that introduction of competition is supposed to increase the cost of capital compared to utilities still operating as a monopoly. Utilities under current regulation can also earn either above or below their authorized cost of capital, with some utilities earning above their authorized return for significant periods of time. In addition, any increase in the required rate of return will be counterbalanced by the reduction in cost of capital for transmission and distribution utilities no longer involved in generation activities, if utility disaggregation becomes widespread. It is also argued that the prospect of competition in the electric industry is not a new or sudden development to investors in the electric industry, and that investment analysts have indicated that they do not expect full recovery of stranded costs to be granted.

In the area of rate of return, some studies have shown that over an extended period (from the early 1970s to the early 1990s), utility stocks have achieved a greater return overall than competitive industry stocks. All other things being equal, utility stocks should earn a lower return than nonregulated companies as they face less risk. Since these studies show the opposite result, it is argued that utilities as a group have in fact earned excessive returns over a period of time, and these excess earnings should be assumed to be at least a partial recovery of stranded costs, if the utilities seek to recover them.

In response to the assertion that stranded cost recovery should be allowed to keep utilities from stalling the competitive transition in court, the counter argument is that stranded cost issues should be decided on the merits to the greatest degree possible, with Apolitical@ considerations secondary if they are considered at all. It is also usually noted that utilities made similar arguments about prudency and Aused and useful@ disallowances in relation to nuclear plants in the 1980s, and were largely unsuccessful in the courts.

Finally, in response to arguments that all stranded costs have at some point been found to be prudently incurred and therefore should be recoverable, it is asserted that stranded costs may fail to meet the Aused and useful@ ratemaking test often used along with the prudency standard in setting rates. (The used and useful test holds that an investment should not be reflected in a utility=s rate base unless the regulator determines it to be both currently in use and useful to the ratepayer.) The theory is that investments exposed as uneconomic due to competitive forces cannot be thought of as Auseful@ to customers. Therefore, at the very least, the investment should not continue to receive a full return through stranded cost charges.

CHAPTER VIII

Impact of Stranded Cost Recovery on Key Stakeholders

A. Introduction

The members of the Stranded Cost Working Group were asked to submit their ideas on what the impact of allowing or not allowing stranded cost recovery would be on the major stakeholders of the electric restructuring process: customers, shareholders and potential competitors. The following provides a summary of the comments received. It will be evident that there is a wide diversity of opinion concerning the impact of stranded cost recovery on key stakeholders, related to whether the commenter believes in full stranded cost recovery, or in no, or limited, recovery. Also, while the direction of the stranded cost impacts is generally clear (i.e., positive or negative), the extent of the impact depends upon the size of the allowance or disallowance in relation to the total amount of stranded costs identified.

B. Impact on Customers

According to those parties that desire to limit stranded cost recovery to some degree, the primary impact of stranded cost recovery on customers is to potentially reduce the amount of savings associated with competition and restructuring that will be available to them, for the duration of the recovery period. Those who believe Missouri is a relatively low cost state fear that restructuring can actually result in an increase in rates, particularly for small consumers. (They hypothesize that current low cost power producers in Missouri will seek to sell in higher cost areas rather than Missouri, so as to maximize profits.) If, in fact, book values for assets are less than the market value, then customers will pay more unless there were payments or some other sort of compensation for negative stranded costs. It is also alleged that stranded cost payments could be used as part of a strategy by incumbent providers to engage in predatory pricing in order to deter the development of competition, with the result that prices would be higher in the long term to consumers.

It is theorized that stranded cost recovery will have negative impacts on the dynamic efficiency of utilities. (This issue is generally discussed in Chapter VIII.) According to this theory, stranded cost recovery will act as a subsidy to those electric providers that are less efficient or economical, removing incentives for those firms to reduce costs in order to maintain or increase their market share. A policy of recovery could also discourage entrance into the market of new competitors, who must attempt to recover both fixed and variable costs in the prices charged, while the incumbent needs to compete only on variable incremental costs because the presence of nonbypassable stranded cost charges covers its fixed costs. Similarly, stranded cost recovery policies based on rate freezes which deny consumers access to competitive markets until the incumbent has Apaid down@ its fixed costs could create potential Asuper competitors@, again placing potential competitors at a disadvantage. Overall, it is believed by these parties that stranded cost recovery will also result in a less vibrant competitive marketplace, with a decreased range of service offerings and reduced alternative supplier innovation in producing, packaging and delivering value added services.

Turning to those parties who favor full stranded cost recovery, the view that such recovery will limit consumer benefits is termed Asimplistic@. First, it is pointed out that all potential stranded costs are currently reflected in rates, and recovery should not lead to a rate increase. Second, a policy of denying stranded cost recovery could lead to a situation where the most efficient supplier of electricity may not be chosen, when an incumbent with low marginal costs nonetheless does not win the sale because it cannot recover the sunk costs of the current regulatory structure. This phenomenon is termed Auneconomic bypass.@ (This economic argument is also addressed in Chapter VIII.)

In addition, pro-recovery parties assert that there will be opportunities for customers to save on their electric bills under competition, even when full stranded cost recovery is allowed. Potential cost reductions cited include the benefit on increased regional coordination of generation through use of independent system operators and enhanced bidding procedures for generation; lower reserve margins; and higher utilization of existing assets through such techniques as real-time pricing.

Some proponents believe that failure to allow for stranded cost recovery could increase rate pressure on smaller customers, if only larger and more sophisticated customers take advantage of competitive opportunities and leave their former suppliers= system, increasing the proportion of the system=s fixed costs to be covered by the incumbent=s remaining customer base that does not secure an alternative supply that is less expensive.

Finally, it is alleged that attempts to deny utilities fair and full stranded cost recovery will only lead to protracted court proceedings, with the advantages of competition potentially denied to customers for the duration of the legal dispute.

C. Impact on Stockholders

Parties generally advocating full recovery of stranded costs cite negative impacts on electric utility shareholders from failure to provide for such full recovery. At the very least, material disallowances can increase the cost of financing for affected utilities, and make them less able to compete in the marketplace. At the extreme, where certain utilities' stranded cost exposure may be greater than their entire stockholders' equity, bankruptcy may result from denial of stranded cost recovery.

Further, these parties supporting full recovery state that potential negative impacts of stranded cost policy on shareholders might result in financial relief ordered by the court systems, paid by taxpayers, if shareholders' federal constitutional rights or statutory rights are found to be infringed by stranded cost policymakers.

Parties favoring more limited stranded cost recovery note that negative impacts on shareholders from denial of recovery will, of course, be limited to shareholders of firms with substantial stranded cost exposure. Other current investor-owned utilities without such exposure may well benefit from policies placing significant limitations on stranded cost recovery. It is also noted that even if there is a disallowance of stranded costs, the resolution of uncertainty may have a favorable impact on the stock price.

It is also pointed out by these parties that allowing full stranded cost recovery, without restricting the receiving utilities' use of the cash, could lead to an enhanced ability by those firms to acquire lower cost firms or otherwise foreclose to some degree development of a competitive electric market.

These parties also assert that it will be difficult to ascertain exactly which shareholders will have suffered alleged damage from failure to fully recover stranded costs. To the extent that shareholders have already incorporated some expectation of failure to achieve full recovery of stranded costs in the future (and statements by financial analysts indicate they have), then the stranded cost issue has already had a negative impact on stock prices. If some of the impacted shareholders have already sold their electric utility holdings, then these shareholders would have already sustained losses, and these individuals will not be compensated for their losses unless they can be identified and their losses quantified. On the other hand, individuals buying electric stocks after some expectation of failure to achieve full stranded cost recovery has been established, will achieve an undeserved windfall gain if policymakers later decide to allow full stranded cost recovery. In short, it is alleged that allowing full stranded cost recovery to minimize shareholder harm is a blunt instrument, with the relief not necessarily targeted to those shareholders that actually suffered the damage.

Proponents of recovery counter that this theory not only ignores the damage done to shareholders, but overlooks the negative effect on the incumbent utility. It assumes that because all of the shareholders who have been harmed cannot be identified, no compensation is due to any. They also point out that if expectations deteriorate that the government will fulfill its obligations, the cost of acquiring funds for new investment will rise, thus inhibiting the ability of the incumbent utilities to compete and potentially to survive. It is asserted that this would distort future competition in favor of new entrants.

D. Impact on Competitors

The impact of stranded cost recovery policy on the development of competitive markets is noted to some extent in the above discussion. The only other comments received regarding the potential impact of stranded cost policies on the future competitive market for electricity concerned the need for stranded cost payments to apply equitably to all electricity users within an incumbent provider's service territory. In particular, any stranded cost recovery mechanism that would disproportionately impose those costs on customers who desire to use alternative service providers will both reduce the potential for consumer savings and reduce the amount of potential competition. The concern remains, however, that significant stranded cost compensation to utilities with high fixed costs and relatively low variable costs will place potential competitors at a disadvantage since they do not have any guaranteed recovery but must recover 100% of their costs in the competitive market.

CHAPTER IX

Collection Methodology

The preceding chapters in this report have dealt with a variety of issues pertaining to the identification and quantification of potential stranded costs. After all of this analysis has been completed, a decision must be made concerning how to collect any positive stranded cost balance that is allowed for recovery from consumers, or to amortize any negative stranded cost balance that is identified as appropriately credited to consumers.[26]

This chapter addresses collection methodology in two dimensions. The first is the cost of service/rate design dimension which involves how costs are apportioned among customer classes and then attributed to customers within customer classes. The second dimension is the temporal dimension, which involves a consideration of whether historic or current electrical requirements of customers should be used in applying the collection factors.

Regardless of how the stranded cost issue is resolved for any given utility, the Working Group believes that it is appropriate for any charges or credits to be confined to the customers of each individual utility. Spreading these charges or credits across the customers of other utilities would not be appropriate.

A. Cost of Service/Rate Design Dimension

Books could be (and have been) written about all of the various cost of service and rate design issues. For purposes of this report, it is not necessary to engage in an extended discussion of the various theories which underlie cost of service and rate design,

[26] Even if it is determined that stranded cost recovery is not necessary or appropriate, the existing rates must still be unbundled so as to identify the component which recovers generation costs.

but it is necessary to outline certain basic considerations which influence cost of service and rate design regardless of the particular theories employed.

A review of electric utility tariffs reveals substantial differences among customer classes. Rates for residential and other small customers tend to be fairly simple in structure, usually consisting of an energy charge per kilowatthour (which may be seasonal) and sometimes a separately stated customer charge. In theory, the customer charge collects costs that are relatively uniform from customer to customer and which do not vary as a function of consumption. This includes such things as metering, meter reading, billing, etc. The energy charge collects both the energy-related costs and the demand-related costs.[27]

Rates for larger commercial and industrial customers tend to be more complicated because they separately assess customer charges, energy charges and demand charges. In addition, these rates often reflect features which are sensitive to seasonality of load pattern and the voltage level at which electric service is taken. Rates for these categories of customers have typically reflected these more detailed pricing considerations because of the diversity of characteristics among the customers within these classes and because the cost of metering was reasonable in relation to the value added because of the ability to price separately for the demand and energy components of service.

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[27] As a general rule, the energy-related costs consist of those items which tend to vary as a function of the number of kilowatthours purchased. Fuel and some generation maintenance expense are primary examples of variable costs. The demand-related costs are those which tend to be incurred as a function of the demand of customers for electric power at peak time(s).

Among customer classes, there are significant differences in the cost elements discussed above, leading to differences in cost of service. Many of the industrial and certain commercial and institutional customers (hospitals, large office buildings and schools, etc.) tend to purchase larger volumes of electricity, purchase it at higher voltage levels on the transmission/distribution system and tend to exhibit smaller variations in power requirements on a daily and a seasonal basis,[28] as compared to residential or smaller commercial customers. These variations in size, voltage level and load factor give rise to differences in the cost of serving the various customer classes. These kinds of cost differences are typically reflected in the rates and can be observed in the resulting revenues collected from the various customer classes.[29] A set of fairly typical relationships might be as indicated in the following table:

Table IX - 1

Representative Revenue per Kilowatthour (cents per kilowatthour)

Description	**Residential**	**Commercial**	**Industrial**
Generation Revenue	5.0	4.5	4.0
Transmission and Distribution Revenues	3.0	2.5	1.0
Total Revenues	8.0	7.0	5.0

The differences in average revenue per kilowatthour for generation, transmission and distribution and in total reflect variations in the cost to serve these types of customers.

28 Customers who use power on a relatively consistent basis are called high load factor customers, while customers whose usage tends to vary significantly from daytime to nighttime, from weekday to weekend, and from season to season are called low load factor customers.

29 These differences in cost are generally reflected in rates, but, because factors others than costs (including disagreements about the definition of costs) enter into the ratemaking equation, the differences in rates do not precisely equal the differences in costs.

The above describes what is collected in current rates, where the embedded or book costs of the utility are the basis for establishing the rates. With a competitive environment, the generation component would be priced on a competitive market basis. For purposes of illustration, assume that the market price of generation currently is such that when differences in load factor and voltage level are taken into account, the average price is 3.0**4**/kWh for residential customers, 2.7**4**/kWh for commercial customers and 2.5**4**/kWh for industrial customers. We would then have the situation depicted in the following table:

Table IX - 2			
Illustrative Comparison Between Embedded Costs and Market Prices (cents per kilowatthour)			
Description	**Residential**	**Commercial**	**Industrial**
Embedded Generation Cost	5.0	4.5	4.0
Market Generation Cost	3.0	2.7	2.5
Difference	2.0	1.8	1.5

To extend the example, assume now for simplicity that the mix of customer classes is such that the values for the commercial class represent the weighted average values. That is, the system-wide average value for generation is 4.5**4**/kWh on an embedded basis, and 2.7**4**/kWh on a market basis.[30] Assume now that, at least initially, the amount of Stranded Cost Collection (SCC) is equal to 100% of the difference between book value

[30] A different assumption about the mix of customer classes could be made, but it would just complicate the example without adding to its illustrative value.

and market value. On an unbundled basis, customers would pay the embedded T&D charge, the market value of generation, and an SCC equal to the difference between the embedded cost of generation and the market value of generation.

One approach to the allocation of the SCC would be to charge each class the difference between the embedded costs and the market price of generation as determined above. In this particular example, the end result would be that each customer class would continue to pay the same rate that it was paying previously. No customer class would pay less, and no customer class would pay more, and there would not be any shifting of cost recovery among customer classes, or between customers within classes. If a lower amount of SCC is to be collected, a proportional relationship (i.e., 80%) for all classes could be established to avoid cost shifting. In terms of rate design, the SCC would be collected through the demand and energy charges of the rates that have both, and through the energy charge for those rates which collect both demand and energy costs through an energy charge.

Since rates are not always precisely aligned with costs, a second approach would be to adjust the existing rate schedules to match cost of service before allocating stranded cost recovery. Assume for purposes of illustration, and for simplicity, that an adjustment to cost of service would require a 0.2**4**/kWh increase in the generation component of the residential rate and a 0.2**4**/kWh decrease in the generation component of the industrial rate.[31] Residential customers would now pay 3.0**4**/kWh for T&D, 3.0**4**/kWh for the market value of generation and 2.2**4**/kWh for SCC, for a total of 8.2**4**/kWh. Industrial customers

[31] Or vice-versa.

would pay 4.8**4**/kWh and commercial customers would continue to pay 7.0**4**/kWh. While arguably more precise, the result of this approach is some shifting of cost recovery between classes. The rate design would be the same as in the immediately preceding discussion.

A third approach sometimes mentioned is collection of the SCC on a uniform amount per kilowatthour basis. In our example, this would imply 1.8**4**/kWh from all customer classes. While admittedly simple, the per kilowatthour approach to collection does not necessarily recognize the existing differences in cost of service already reflected in the rates charged to the different customer classes, or differences in existing rate structures. It also produces shifts in revenue collection among customer classes and between customers within each class, just as in the preceding example.

A fourth approach is suggested by those economists who argue that the SCC is really designed to recover sunk costs, and therefore the recovery mechanism should not be sensitive to customer consumption levels, but instead, should be in the nature of a fixed charge which does not vary with the level of the customers**=** purchases. This leads to the idea that the SCC could be imposed on a per customer basis (or other fixed basis**B**such as a demand charge), either uniformly across all customer classes, or on a basis which varies by customer class to recognize differences in size. Whatever the form, the imposition of SCC charges on a per customer basis will result in the shifting of cost recovery relative to current tariffs.

B. Basis of Application

The second level of consideration for stranded cost recovery is the basis of application. In the early days of the discussion of open access, many commenters referred to a concept of Aexit fees,@ which would be charges applied to customers who decided to choose an alternate generation supplier. The concept of exit fees implied that customers who did not elect alternate suppliers, but instead stayed with their incumbent utilities, were not paying anything toward stranded cost recovery.

On further consideration, it became clear that customers who continued to purchase from the incumbent utility at regulated rates were in fact paying rates that contributed to the recovery of stranded costs, because the tariff rates were above market prices. Accordingly, the discussions have shifted toward the concept of a Anon-bypassable@ wires charge, paid both by customers who elect to continue to purchase from their incumbent utility, as well as by customers who elect to purchase from an alternate electric utility supplier. This is a much more accurate description of the process, and recognizes that stranded cost recovery is implicit in the tariff even if an alternate supplier is not selected.

Within each customer class, a cost-based approach would recover the non-bypassable charge based on some combination of demand charges and energy charges applied to the customers= level of electricity usage. The theoretically economic approach, which is designed to not distort consumption decisions, would apply the collection mechanism within each class on some form of customer or other fixed charge basis.

Customer consumption levels can and will change over time for a variety of reasons. A residential customer may add a room in his or her house, may install an air conditioner or other electricity-using appliance, may experience a reduction in use because children move out, may experience a reduction in electricity purchases because of the installation of solar panels or other renewable energy resources, may upgrade insulation, buy a more efficient air conditioner, etc. In addition, year-to-year variations will occur because of changes in weather and economic factors. Commercial and industrial customers may experience changes in consumption levels as a result of a variety of factors, such as weather and economic cycles, as well as the addition of new facilities or the closing of old facilities. Purchased electricity requirements may also change as a result of the installation of solar panels, fuel cells, distributed generation, or even larger scale cogeneration facilities.

The question relevant to stranded cost recovery is the level of consumption to which the SCC charges should be applied. Some would argue that it should apply to historic consumption levels because the generation facilities for which SCC recovery is permitted were, it is argued, built to serve historic consumption. This logic also would argue for exempting new load and new customers from any payment of SCC, since the facilities giving rise to SCC, according to this theory, were not built to serve these new loads. This approach raises substantial equity questions, particularly in situations where an existing industry installing generation facilities would be required to pay SCC on historic usage, but a new competitor located in the service territory would be completely exempted from any SCC charges.

An argument for applying SCCs to current consumption only is that all customers have always been required to support the cost of the system as it exists, in proportion to their current consumption (unless they have contracted for a different arrangement), and that vintage pricing which treats customers differently depending upon when they attach to the system has never been implemented. Another argument is that many of the factors which cause a change in consumption have nothing to do with the opportunity to utilize the incumbent utility's transmission and distribution lines in order to purchase power from another electric utility. For example, economic downturns and the right to increase or decrease the level of consumption because of a change in factory output are circumstances that have always existed, and the right to choose a different electricity supplier should not affect how these changes translate into power cost. Also frequently cited is the fact that customers have always had the opportunity to install cogeneration, renewable resources and other on-site generation resources, and that there is nothing about customer choice of an off-site electricity supplier that has affected these customer options.

C. Conclusion

There are strongly held views of all sides of both dimensions of the collection issue. In deciding what is appropriate, consideration should be given to a number of factors, including the potential impact of cost-shifting between and among customers and customer classes, adherence to cost of service principles, the impact on the development of alternative resources, impacts on the use of energy efficiency measures, and the effect on economic development.

Appendix D

References

Abbott, Susan, Stranded Cost Securitization: Analytical Considerations, The Electricity Journal, October 1997.

Alliance for Lower Electric Rates Today and The Louisiana Energy Users Group, Customer Choice in Louisiana: An Implementation Plan, May 1997.

Awerbuch, Shimon and Hyman, Leonard S., Demystification - The Economic Realities of Securitization, The Electricity Journal, October 1997.

Bankruptcy Case No. 94-11474, Procedures For Submission Of Proposals To Purchase Assets, January 22, 1996.

Baumol, William J., Joskow, Paul L. and Kahn, Alfred E., The Challenge for Federal and State Regulators: Transition from Regulation to Efficient Competition for Electric Power, Edison Electric Institute, December 9, 1994.

Baumol, William J., Sidak, J. Gregory and Michaels, Robert J., Pay Up or Mark Down?, A Point-Counterpoint, Public Utilities Fortnightly, May, 15, 1995.

Baxter, Lester; Hirst, Eric; and Hadley, Stan, Transition Cost Issues for a Restructuring U.S. Electricity Industry, Oak Ridge National Laboratory, ORNL/CON-440, March 1997.

Bayless, Charles E., Stranded Cost Recovery: A Practical Argument for Utilities, Public Utilities Fortnightly, June 1, 1997.

Bradford, Peter, Strandable Investment and the Regulatory Compact, before the Vermont Public Service Board, July 15, 1996.

California Public Utilities Commission, In the Matter of the Application of Southern California Edison (U 338-E) for Authority to Sell Gas-Fired Electrical Generation Facilities, Interim Opinion, Decision 97-09-049, September 3, 1997.

California Public Utilities Commission, Application of Pacific Gas and Electric Company for Authorization to Sell Certain Generating Plants and Related Assets Pursuant to Public Utilities Code Section 851, Interim Opinion, Decision 97-09-046, September 3, 1997.

California Public Utilities Commission, Docket Nos. R.94-04-031 and I.94-04-032, Order Instituting Rulemaking and Investigation on the Commission=s Proposed Policies

Governing Restructuring California's Electric Services Industry and Reforming Regulation, Decision No. D.96-01-009, January 10, 1996.

Electric Utility Week, PECO Backs Out Of Deal To Buy Stake In River Bend, Citing Operating Costs, July 21, 1997.

Electric Utility Week, Consumers Energy To Use Auction Of NUG Capacity To Determine Stranded Costs, July 21, 1997.

Electric Utility Week, Maine PS Puts 92 MW of Fossil and Hydro Generation Up for Sale, Also IPP Pact, September 15, 1997.

Electric Power Alert, Boston Edison, COM/Electric Announce Generation Asset Auctions, April 9, 1997.

Electric Power Alert, NEES Puts $1.1 Billion Worth Of Generation On Auction Block, February 26, 1997.

Electric Power Alert, NEES Generation Auction Lures 25 Bidders To Snap Up Fossil Generation, April 9, 1997.

Energy Central, New England Electric in $1.59 billion deal with PG&E, Energy Central web site, www.energycentral.com, August 6, 1997.

Energy Central, Central Maine Finds Power Plant Interest, Energy Central web site, www.energycentral.com, June 20, 1997.

Energy Central, Con Edison and Public Service Commission Staff Reach Agreement on Lower Electric Rates and Customer Choice, Energy Central web site, www.energycentral.com, March 13, 1997.

General Assembly of California, Assembly Bill 1890, August 1996.

Hartman, Raymond S. and Tabors, Richard D., The Regulatory Compact and Re-structuring: A Modest Proposal, Electricity Journal, December 1996.

Haulk, Jake and Kahn, Alfred, The Case for and against Stranded Cost Recovery, Utilities & Perspectives, December 2, 1996.

Hodowal, John R., The Securitization Swindle: Bailout for Utilities, Bad Deal for Customers, The Electricity Journal, October 1997.

Kahn, Edward P., Can Nuclear Power Become an Ordinary Commercial Asset?, *The Electricity Journal*, August/September 1997.

Kelley, Hon. Frank J., Securitization: A State Attorney General's Perspective, The Electricity Journal, October 1997.

Kolbe, A. Lawrence and Tye, William B., The Cost of Capital does not Compensate for Stranded-Cost Risk, Public Utilities Fortnightly, May 15, 1995.

Lesser, Jonathan and Ainspan, Malcolm, Using Markets to Value Stranded Costs, The Electricity Journal, October 1996.

Mabey, Ralph R., Chapter 11 Trustee Of Cajun Electric Power Cooperative, Inc., Cajun Trustee Selects NRG/Ziegler for Further Negotiations, press release, April 8, 1996.

Madian, Alan L., Meaningful Restructuring: Resolving the Stranded Cost Dilemma, The Electricity Journal, January/February 1997.

Massachusetts Department of Public Utilities, Docket No. D.P.U. 96-100, Investigation by the Department of Public Utilities on its Own Motion Commencing a Notice of Inquiry/Rulemaking Establishing the Procedures to Be Followed in Electric Industry Restructuring by Electric Companies, May 1996.

Michaels, Robert J., Stranded Investment, Stranded Intellectuals, Regulation, 1996.

New England Electric System, Restructuring Settlement Agreement, Massachusetts Department of Public Utilities, Docket Nos. 96-100 and 96-25, October 1996.

New England Electric System, New England Electric System Sells Generating Business To PG&E Corporation's U.S. Generating Company, company press release, August 6, 1997.

Nuclear Regulatory Commission, Final Policy Statement on the Restructuring and Economic Deregulation of the Electric Utility Industry, 10 CFR Part 50, August 13, 1997.

Pacific Gas & Electric Company, PG&E Corp's USGen To Acquire NEES Generating Business, company press release, August 6, 1997.

Pacific Gas & Electric, Pacific Gas And Electric Company's Testimony Supporting Authorization To Sell Certain Generating Plants And Related Assets Pursuant To Public Utilities Code Section 851, California Public Utilities Commission, November 1996.

PECO Energy Company and Mabey, Ralph R., Purchase And Sale Agreement By And Between PECO Energy Company And Ralph R. Mabey, Chapter 11 Trustee Of Cajun Electric Power Cooperative, Inc., May 22, 1997.

Perlman, David A., Selling a Nuclear Plant in North America, The Electricity Journal, August/September 1997.

Power Markets Week, Consumers Wants To Auction Capacity Starting in ›98; ›Virtual Divestiture=, July 21, 1997.

Power Markets Week, Analysts Appalled At Prices Bid For New England, Calif. Generation, June 9, 1997.

Power Markets Week, PECO Pulls Out Of River Bend Purchase; Justice Attributes Move To ›Cold Feet=, July 21, 1997.

Power Markets Week, PECO, Already Building Its Southeast Sales, Wants To Buy Piece Of River Bend, March 10, 1997.

Power Markets Week, PECO Marching Into Southeast, Buys 30% Of River Bend At About $170,000/MW, June 2, 1997.

Public Utility Commission of Texas, Report to the 75th Legislature, Volume III: Potentially Strandable Investment (ECM) Report: A Detailed Analysis, January 1997.

Raber, Marvin, and Hasell, Robert W., Nuclear Power in the Competitive Marketplace: Price Expectations and Going-Forward Costs, The Electricity Journal, August/September 1997.

Rogers, David B., Jameson, John M., and Yoong, Dominic K. L., Legal Considerations in Utility Stranded Cost Securitizations, The Electricity Journal, October 1997.

Rogers, Kenneth C., NRC=s Concerns About Electricity Restructuring, The Electricity Journal, August/September 1997.

Rose, Judah; Muthiah, Shanthi; and Fusco, Maria, Is Competition Lacking In Generation? (And Why It Should Not Matter), Public Utilities Fortnightly, January 1, 1997.

Rose, Kenneth, An Economic and Legal Perspective on Electric Utility Transition Costs, Natural Regulatory Research Institute, July 1996.

Rothwell, Geoffrey S., Continued Operation or Closure: The Net Present Value of Nuclear Power Plants, *The Electricity Journal*, August/September 1997.

Smith, Ward L. and Durham, James W., Securing Lower Costs for the Present and Future, The Electricity Journal, October 1997.

Southern California Edison, Application of Southern California Edison for Authority to Sell Gas-Fired Electrical Generation Facilities: Description of the Proposed Auction Process, California Public Utilities Commission, November 1996.

Steinmeier, William D. and Stuntz, Linda G., Compacts, Contracts and Stranded Costs in an Electric Industry in Transition, Edison Electric Institute, February 1995.

Studness, Charles M., The Flawed Case for Stranded Cost Recovery, Public Utilities Fortnightly, February 1, 1995.

The Detroit Edison Company, Proposal For Annual True-Up Mechanism, Michigan Public Service Commission, Case No. U-11290, July 9, 1997.

The Electricity Daily, Maine Yankee to Bite the Dust, August 7, 1997.

The Electricity Daily, USGen Gets NEES Plants for $1.59 Billion, August 7, 1997.

The Electricity Daily, Boston Edison Sets Plant Sale, July 11, 1997.

The Electricity Daily, PG&E Will Spin Off the Rest of Its Fossil-Fueled Generation, June 25, 1997.

United States Bankruptcy Court For The Middle District of Louisiana, In re: Cajun Electric Power Cooperative, Inc., Verified Motion To Establish Procedures For Submission Of Proposals To Purchase Assets, Bankruptcy Case No. 94-11474, January 5, 1996.

United States Bankruptcy Court For The Middle District of Louisiana, In re: Cajun Electric Power Cooperative, Inc., Order Granting Trustee=s Verified Motion To Establish Procedures for Submission of Proposals to Purchase Assets, Bankruptcy Case No. 94-11474, January 22, 1996.

Appendix C

Decisions in Other Jurisdictions

This Appendix briefly outlines the main features of stranded cost recovery decisions in key states that have addressed this issue.

CALIFORNIA

Stranded cost recovery will be granted for above market costs associated with generating assets, nuclear plant settlements, purchased power contracts and regulatory obligations (including nuclear decommissioning.) Costs associated with retraining and early retirement of employees will also be considered as recoverable transition costs. Recovery of these costs was deemed appropriate due to past regulatory policies and past Commission decisions that have created many of these costs. The stranded costs will be collected through a non-bypassable end-user surcharge (competitive transition charge), calculated as a percentage of the dollar amount of each customer bill. The CTC will be allocated to all customer classes in the same approximate proportion that similar costs are being recovered as of June 1996. Any shortfall in recovery from industrial and large commercial customer classes will not be charged to residential and small commercial classes, or vice versa. Utilities generally will not be allowed to recover stranded costs past 2001, though exceptions are granted for long-term contracts and certain other types of potential stranded costs.

Market methods of calculation are to be employed as much as possible, with administrative methods used up to the point in which the market method can be put in place. Prior to market valuation, stranded costs are to be calculated annually. All generation plants must be measured against the market within five years for stranded cost valuation purposes. Market methods include sale or spin-off of assets, as well as use of appraisals by independent third parties.

Divestiture of generating assets is encouraged. The general rule is that the return on equity to be applied to stranded cost assets is to be 90% of the utility's cost of debt. The 10% discount will be eliminated if the utility divests at least 50% of its generating assets. A further 10 basis point increase in ROE will be given to utilities for every additional 10% increase in the amount of generating plants disposed of through sale or spin-off. Utilities can retain 10% of the savings associated with renegotiation of long-term contracts. A utility's accumulated deferred income tax balance will be offset against its stranded cost amount.

Securitization of stranded costs is allowed if such financing will benefit residential and small commercial customers through rate reductions. Securitization bonds will continue to be paid off in full after 2001, notwithstanding any other restrictions on the timing of stranded cost collection.

Companies are not guaranteed full recovery of their stranded costs. The lower risk associated with assets for which stranded cost recovery is granted justifies a lower return on equity. Rates (including fuel adjustment) are frozen and utilities are at risk for recovery of allowed balances. The portion of stranded cost recovery to be securitized will provide for a 10% rate reduction in 1998. Further, it is the intent of the Legislature that a cumulative rate reduction of 20% be applied by 2002, not counting competitively procured generation costs and securitization costs.

Source: CPUC Decision 95-12-063, December 20, 1995, as modified by Decision 96-01-009, January 10, 1996; Assembly Bill 1890, signed September 1996.

ILLINOIS

Stranded cost recovery in the form of a Atransition charge@ will be allowed. The legislation states that Illinois has an interest in providing utilities the opportunity to earn a return on investments made pursuant to traditional regulation. Recovery of stranded costs will be allowed through 2006, though an extension to 2008 can be considered by the Commission based on these four factors: the need to maintain the financial integrity of the utility, the prudence of the utility=s actions to reduce costs, the ability of the utility to provide reliable service, and the impact on competition.

The method for calculating the transition charge will be a Alost revenues@ approach, based on the average level of revenues received from the departing customer over the previous three years. The Alost revenues@ calculation will be offset by the amount of revenue for delivery services received from the customer, the market value of the foregone power formerly used by the customer, and a Amitigation factor@ that is a surrogate for new revenue sources and cost efficiencies that utilities should try to achieve in a competitive environment. The mitigation factor will be calculated at between 6-10% of residential customers= bills over a period of time for residential customers (different percentages are to be used for other customer classes).

The market value of power component of the transition cost calculations will be determined through reliance on electricity price indices, or if such indices are not available, by review of a Aneutral fact finder.@ The neutral fact finder will be a member of the public accounting industry, and will make an annual report to the Illinois Commission as to their findings. A new neutral fact finder will be selected every year.

Securitization will be allowed up to 50% of a utility=s capitalization, but 80% of securitization proceeds must be used to refinance debt or repurchase equity, with the remainder available for other purposes, such as retiring fuel obligations, including spent nuclear fuel.

Rate reductions of between 2% to 15% are mandated, depending upon the particular utility and their current rate levels.

Source: Amended House Bill 362, "Electric Service Transition and Customer Choice," signed December 1997.

MAINE

Utilities should be given a reasonable opportunity to recover legitimate, verifiable and unmitigatable stranded costs, but not a better (or worse) opportunity than that offered under traditional regulation. Principles similar to the Aregulatory compact@ have long been recognized in Maine court decisions. Recoverable categories of stranded costs are generating assets, long-term contracts and regulatory assets. Nuclear decommissioning costs are not part of stranded costs, but will continue to be collected through transmission and distribution rates. Stranded cost amounts will also be collected through transmission and distribution rates, not through exit fees.

Retail access for all customers is to be in place by March 2000. Prior to that time, the Commission will establish interim estimates of stranded costs. In 2003 and every three years thereafter, the Commission will correct substantial inaccuracies in the stranded cost calculations, but on a prospective basis only. An asset-based calculation method is to be used, not one based on lost revenues. Market information is to be used to the greatest extent possible, including, but not limited to, valuations from sale of generating assets and rights to power under contract.

By March 2000, each investor-owned utility is required to divest its generating assets, except for nuclear facilities, contracts with Qualified Facilities, facilities outside the U.S., and facilities necessary for operation as a transmission and distribution utility. After January 2009, the Commission may require divestiture of the Maine Yankee nuclear unit. After February 2000, the utilities are also to sell capacity and energy rights associated with long-term contracts that were not divested earlier. Utilities can seek extensions for the divestiture requirement, if it can be demonstrated that the sale value of assets are likely to improve as a result of the extension.

Utilities are to use all reasonable mitigation methods to reduce stranded costs, and are to assume a reasonable level of mitigation in estimating stranded costs. Incentives to mitigate stranded costs include possible use of price caps and sharing of savings associated with mitigation efforts. The Commission may consider the level of a utility's mitigation efforts in making its stranded cost recovery findings.

While there is no legal requirement that utilities recover 100% of stranded costs, the Commission does not find any justification to Ashare@ stranded costs between shareholders and ratepayers, as all such costs have been judged as prudent in the past.

Source: MPUC Docket No. 95-462, December 31, 1996; H.P. 1274 - L.D. 1804, "An Act to Restructure the State's Electric Utility Industry," signed May 1997.

MARYLAND

The Commission will allow recovery of verifiable, prudent and fully mitigated stranded costs. Utilities are to make filings by March 1998 concerning their stranded cost and mitigation estimates, the period of proposed recovery and collection mechanism. If a utility seeks securitization treatment of stranded costs, it should demonstrate the existence of benefits to residential and small commercial customers by such an approach.

The Commission will make its determinations concerning stranded cost categories, quantification methods and possible sharing of stranded costs at a later time.

A rate cap will be imposed from April 1999 to April 2001. The rate cap will be inclusive of any stranded cost charge that is allowed during that time frame.

Source: MPSC Case No. 8738, December 3, 1997.

MASSACHUSETTS

Utilities should have a reasonable opportunity to recover nonmitigatable stranded costs if no rate increase results. Recoverable costs include generating assets, long-term purchased power agreements, nuclear entitlements and regulatory assets. Certain employee-related costs (severance payments, retraining) can be included in stranded cost requests as well. Collection of all stranded costs is to be through a non-bypassable mechanism.

While there is no explicit regulatory compact (no promise to protect shareholders against the risk of regulatory change), stranded cost recovery is justified because of need to honor existing regulatory commitments and maintain the faith of the financial community.

No fixed time period is set for recovery of stranded costs, but should generally be assumed to be over the life of the generating asset, power contract or regulatory asset. All utilities receiving stranded cost recovery are to receive a comprehensive audit of claimed stranded cost categories first.

Only utilities that sell their non-nuclear generating assets or transfer them to an affiliated company may receive 100% stranded cost recovery. Transfer of assets to an affiliated company will be valued at highest price per kW resulting from a New England asset sale transaction. If a utility does not divest generation, the Commission is to use a market valuation for determining its stranded costs. Companies using administrative methods should reflect assumptions as to the likely expectations of a successful bidder as to the operating costs and marketing potential associated with a divested facility. Mitigation measures should include asset sales, energy sales, renegotiation of purchased power obligations and voluntary write-offs. Mitigation of stranded costs is essential to allowing customers their fair share of benefits from electric restructuring. The return allowed on stranded cost assets will be inversely related with the magnitude of these costs.

Securitization will only be authorized for those utilities divesting their non-nuclear generation.

A 10% rate reduction is mandated for 1998, with another 5% reduction to occur in the following year.

The stranded cost balance should be reconciled every 18 months after March 2000. If it is determined that the utility has overrecovered stranded costs, then credits are to be issued to customers.

Source: D.P.U. 96-100, Model Rules and Legislative Proposal, December 30, 1996; "Act Relative to Restructuring the Electric Utility Industry in the Commonwealth," passed November 1997.

MICHIGAN

Stranded cost recovery is approved for prudent past costs. The existence of mutual obligations between a utility and its customers, similar to a Aregulatory compact@ is noted. Regulatory assets, capital costs of nuclear facilities, capacity components of power purchase agreements, employee retraining costs and costs to set up a direct access system are the categories of potential stranded costs to be considered.

The uncertainty of the future market price of electricity and the level of mitigation by utilities makes true-ups of stranded costs essential.

The initial groups of customers receiving retail access (2-1/2% of total customers) will be chosen through a bidding process by which the customer indicates the amount they are willing to pay as a transition (stranded cost) charge. The highest bidding customers will be chosen. By 2002, all customers are to pay the same cost based transition charge.

While securitization may be a desirable means to ensure that all customers receive rate decreases under a new regulatory regime, no decision on the use of securitization of stranded costs will be made until the legislature has a chance to address the issue and certain related tax questions are resolved.

No other specific stranded cost matters were addressed by the Michigan Commission in its initial restructuring order. In a subsequent order, the Commission ruled that actual percentages of customers leaving the incumbent utilities' systems, the actual transition costs collected by the utility through the previously discussed bidding process, and the actual market prices paid by retail access customers should be used to true-up stranded cost collections, as opposed to use of what it viewed as "market price proxies." Also, Consumers Energy's proposed "capacity auction" method of quantifying stranded costs was rejected.

Sources: MPSC Case No. U-11290, June 5, 1997; MPSC Case No. U-11454, October 29, 1997.

MONTANA

Stranded cost recovery should be allowed for QF contracts, regulatory assets and (for four years only) generating assets and long-term contracts. Reasonable mitigation efforts are required. Recovery is to be through a non-bypassable charge to all customers.

A two-year rate moratorium will be applied beginning in July 1998 (certain exceptions are granted to this requirement).

Transition (securitization) bonds may be issued, if the savings benefit customers and their term does not exceed 20 years.

Source: Senate Bill 390, "The Montana Electric Utility Industry Restructuring and Consumer Choice Act," effective May 1997.

NEW HAMPSHIRE

Stranded cost recovery is allowed for Anet sunk generation costs not recoverable under retail access.@ Stranded costs include regulatory assets and nuclear decommissioning, but do not include variable generation costs, employee costs and generation-related deferred tax liabilities. The Commission submitted with its Order a voluminous ALegal

Analysis@ which stated its belief that utilities are not entitled as a matter of law to full recovery of stranded costs associated with the introduction of competition. Recovery will be accomplished through a user surcharge via the local distribution company.

The sale or spin-off of assets is described as the most accurate way to calculate stranded costs. Neither of these two alternatives is required, but utilities will not be allowed to sell at retail in the service territories of their affiliated distribution companies if they do not divest their generating assets.

Among the methods of mitigating stranded cost amounts addressed in the Order are sale or spin-off of assets, voluntary write-downs, securitization, and others. The PUC recommends the legislature proceed cautiously with securitization initiatives, as true-ups of stranded costs would be foreclosed by use of this option.

Determination of the amount of stranded cost recovery will be made on a case-by-case basis. Utility management decisions will be reviewed in making this determination. Also, the amount of recovery will be dependent upon the relationship between the utility=s rate levels and the average regional rate (the higher the utility=s rate above the regional average, the less cost recovery). Full stranded cost recovery may be anti-competitive, in that generating companies could be free to drop their price in a competitive market and suffer no loss if allowed stranded costs.

Note: The Commission's Order on restructuring is not being fully implemented due to a utility's appeal of its stranded cost provisions.

Source: NHPUC Case No. DR-96-50, AFinal Plan,@ February 28, 1997.

NEW JERSEY

Stranded costs directly related to utility power supply will be allowed. This includes generation plants, and long and short-term power contracts with utilities and nonutility generators. Generation-related regulatory assets and nuclear decommissioning will not be considered stranded; they will continue to be collected through distribution rates. The existence of a regulatory compact is implicitly affirmed, but does not mean 100% recovery of stranded costs is mandated. The collection will be in the form of a Amarket transition charge,@ a non-bypassable component of the customer=s bill.

The existence and amount of recoverable stranded costs will be determined on a case-by-case basis for utilities. Recovery of stranded costs is to be allowed concurrently with retail access, and should only extend for four to eight years. Utilities are to propose a market valuation method in their stranded cost filings. All reasonable mitigation methods should be employed, such as sale of excess generation capacity, accelerated depreciation, reduced return on uneconomic assets, and buy-out or renegotiation of long-term contracts. Securitization holds promise as being part of the solution to the stranded cost problem, and will be studied further. However, use of securitization will not be the sole source of potential rate reductions. The possible need for asset divestiture to perform an appropriate market valuation will be considered later.

100% recovery of stranded costs is not contemplated, with a cap on overall rate levels the preferred method of allocating costs to shareholders. Also, a 5-10% rate reduction will be mandated concurrent with the start of retail access.

Note: Commission findings on stranded cost issues are not enforceable until legislative approval is received.

Source: ARestructuring the Electric Power Industry in New Jersey,@ April 30, 1997.

NEW YORK

Stranded cost recovery of prudent, verifiable and nonmitigatable costs is approved in concept, with amounts and timing of recovery to be determined on a case-by-case basis. In making this finding, explicit regulatory compact or mandated prudent investment recovery arguments were rejected. Utilities should have a reasonable opportunity to recover stranded costs, though this opportunity must be balanced with the goals of lowering rates, providing for customer choice, maintaining reliability, and fostering economic development. Recovery is to be through a non-bypassable distribution charge.

Utilities are encouraged to devise Acreative@ ways to mitigate stranded costs, including renegotiation of IPP contracts. Generation divestiture is encouraged as a way to mitigate market power concerns, but is not required. (In subsequent case-by-case settlements, utilities have agreed to divest a certain percentage of their generating assets.)

Rate caps are an appropriate tool to prevent cost shifting associated with stranded cost recovery.

Source: NYPSC Opinion No. 96-12, May 20, 1996.

OKLAHOMA

Legislation directed that procedures be developed to identify, quantify and recover prudent, verifiable and unmitigated stranded costs. No increase in rates will be permitted as a result of stranded cost recovery. Recovery will be over a period from three to seven years.

The Commission will consider use of a distribution access fee to recover stranded costs. No further policy decisions were made on stranded costs in the legislation.

Source: "Electric Restructuring Act of 1997," signed April 1997.

PENNSYLVANIA

Recovery of known and measurable net generation-related stranded costs is allowed, after mitigation. Existence of a regulatory compact concept is implicitly agreed to. However, a utility must demonstrate that it has undertaken substantial mitigation, and the Commission must find that the amount allowed for recovery is "just and reasonable." Recovery of stranded costs is to be through a non-bypassable charge on customers accessing the transmission or distribution networks. Recovery of stranded costs shall not result in shifts of class revenue requirement. Stranded cost recovery is to be granted related to new self-generation initiatives.

The types of costs to be potentially considered as stranded include: generating assets, long-term purchase power commitments, renegotiation of NUG contracts, regulatory assets and decommissioning costs, disposal of spent nuclear fuel, and employee retraining and early retirement costs.

Recovery of stranded costs can begin prior to retail competition (as early as the effective date of the legislation). Though some flexibility is granted to the Commission in regard to the endpoint of recovery, in general the legislation cuts off recovery nine years after the legislation becomes law.

No specific methodology for calculating stranded costs is prescribed in the law. Nor are any specific mitigation techniques required, though the approaches of accelerated depreciation and amortization, minimization of new capital spending, reallocation of depreciation reserves, sale of idle or underutilized existing generation assets, maximization of market revenues, and issuance of securitized debt are options listed in the legislation. Divestiture of generating units is allowed, but not required. The law calls for annual reconciliations of actual stranded costs and the amount collected in rates.

Securitization is allowed for stranded costs, up to limits to be set by the Commission. Utilities can seek expedited treatment from the Commission for securitization requests. There is to be a rate cap on customer bills for up to 54 months after the legislation passes (or until stranded costs have been collected in entirety). Certain exceptions are granted to the rate cap requirement, concerning the need for possible extraordinary rate relief and other factors.

Source: House Bill 1509, signed December 1996.

RHODE ISLAND

The statute states that utilities should have a reasonable opportunity to recover costs prudently incurred in relation to the past legal obligation to provide service at reasonable costs. Types of stranded costs include regulatory assets, nuclear decommissioning, purchased power contracts and generating plants. These amounts will be collected through a non-bypassable transition charge.

Stranded costs may be recovered through the year 2009. From July 1997 to December 2000, the transition charge will be valued at $.028/kWh. After 2000, the amount authorized will be sufficient to recover the remaining authorized costs reflecting a true-up of the amounts already collected. The equity return on unrecovered generation plant and regulatory asset stranded costs will be set at one percentage point above the prevailing debt rate for BBB long-term bonds.

All power suppliers receiving stranded costs must put on the market at least 15% of their non-nuclear generating facilities. Utilities can retain 10% of the savings from renegotiation or buy-out of long-term power contracts. To mitigate stranded costs, and prevent residential customers from paying higher rates as a result of competition, all distribution companies will have a performance-based rate plan in place by the end of 1998.

Source: "Rhode Island Utility Restructuring Act of 1996," enacted August 1996.